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UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION 10

IN THE MATTER OF:

Portland Harbor Superfund Site,
GASCO Facility
Portland, Oregon

NW NATURAL (aka Northwest Natural Gas
Company)

Respondent.

ADMINISTRATIVE ORDER ON
CONSENT FOR REMOVAL ACTION

U.S. EPA Region X
CERCLA Docket No. 10-2004-0068

Proceeding Under Sections 104, 106(a), 107
and 122 of the Comprehensive Environmental
Response, Compensation, and Liability Act, as
amended, 42 U.S.C. §§ 9604, 9606(a), 9607
and 9622

GASCO Facility Administrative Order on Consent



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I. JURISDICTION AND GENERAL PROVISIONS

1. This Administrative Order on Consent (“Order”) is entered into voluntarily by the United States Environmental Protection Agency (“EPA”) and NW Natural (“Respondent”). This Order provides for the performance of a removal action by Respondent and the reimbursement of certain response costs incurred by the United States at or in connection with the property located at 7900 NW St. Helens Road in Portland, Multnomah County, Oregon, (the “GASCO Site” or the “Site.”) The GASCO Site is located within the Portland Harbor Superfund Site that was listed on the National Priorities List in December, 2000.

2. This Order is issued under the authority vested in the President of the United States by Sections 104, 106(a), 107 and 122 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, 42 U.S.C. §§ 9604, 9606(a), 9607 and 9622, as amended (“CERCLA”).

3. EPA has notified the State of Oregon Department of Environmental Quality (“DEQ”) of this action pursuant to Section 106(a) of CERCLA, 42 U.S.C. § 9606(a).

4. EPA and Respondent recognize that this Order has been negotiated in good faith and that the actions undertaken by Respondent in accordance with this Order do not constitute an admission of any liability. Respondent does not admit, and retain the right to controvert in any subsequent proceedings other than proceedings to implement or enforce this Order, the validity of the findings of facts, conclusions of law, and determinations in Sections IV and V of this Order. Respondent agrees to comply with and be bound by the terms of this Order and further agrees that it will not contest the basis or validity of this Order or its terms.

5. EPA and DEQ have entered into a Memorandum of Understanding for the Portland Harbor Superfund Site (MOU) under which EPA and DEQ have agreed to share responsibility for investigation and cleanup of the Superfund Site, including upland sources. DEQ is the lead agency for conducting upland work necessary for source control, and EPA is the Support Agency for that work. EPA is lead agency for conducting in-water work, including coordination of EPA’s lead work with DEQ’s source identification and source control activities. DEQ is the Support Agency for EPA’s in-water work. DEQ will be provided an opportunity to review and comment on plans, reports, and other deliverables that Respondent submits to EPA under this Order.

II. PARTIES BOUND

6. This Order applies to and is binding upon EPA and upon Respondent and its successors and assigns. Any change in ownership or corporate status of the Respondent including, but not limited

including, but not limited to, any transfer of assets or real or personal property shall not alter Respondent's responsibilities under this Order.

7. Respondent shall ensure that its contractors, subcontractors, and representatives receive a copy of this Order and comply with this Order. Respondent shall be responsible for any noncompliance with this Order.

III. DEFINITIONS

8. Unless otherwise expressly provided herein, terms used in this Order which are defined in CERCLA or in regulations promulgated under CERCLA shall have the meaning assigned to them in CERCLA or in such regulations. Whenever terms listed below are used in this Order or in the appendices attached hereto and incorporated hereunder, the following definitions shall apply:

a. "Action Memorandum" shall mean the EPA Action Memorandum relating to the Site signed on April 28, 2004 by the Director, Office of Environmental Cleanup, EPA Region X, or his/her delegate, and all attachments thereto. The "Action Memorandum" is attached as Appendix A.

b. "CERCLA" shall mean the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended, 42 U.S.C. §§ 9601, *et seq.*

c. "Day" shall mean a calendar day. In computing any period of time under this Order, where the last day would fall on a Saturday, Sunday, or Federal holiday, the period shall run until the close of business of the next working day.

d. "Effective Date" shall be the effective date of this Order as provided in Section XXXI.

e. "EPA" shall mean the United States Environmental Protection Agency and any successor departments or agencies of the United States.

f. "DEQ" shall mean the Oregon Department of Environmental Quality and any successor departments or agencies of the State.

g. "Future Response Costs" shall mean all costs, including, but not limited to, direct and indirect costs, that the United States has incurred or will incur in: (1) scoping, planning, and negotiating performance of the Work and this Order prior to the Effective Date; (2) in reviewing or developing plans, reports and other items after the Effective Date and pursuant to this Order; (3) verifying the Work; (4) consulting and/or coordinating with any state or federal agency regarding the

removal action; or (5) otherwise implementing, overseeing, or enforcing this Order, including but not limited to, payroll costs, contractor costs, travel costs, laboratory costs, the costs incurred pursuant to Paragraph 23 (costs and attorneys fees and any monies paid to secure access, including the amount of just compensation), and Paragraph 33 (emergency response), and Paragraph 59 (work takeover). Future Response Costs shall not include the costs of data gathered by EPA that is not related to this Order.

h. "GASCO Site" or "Site" shall mean the former oil gasification plant, encompassing approximately 47 acres, located at 7900 NW St. Helens Road in Portland, Multnomah County, Oregon and depicted generally on the map attached as Appendix C.

i. "Interest" shall mean interest at the rate specified for interest on investments of the EPA Hazardous Substance Superfund established by 26 U.S.C. § 9507, compounded annually on October 1 of each year, in accordance with 42 U.S.C. § 9607(a). The applicable rate of interest shall be the rate in effect at the time the interest accrues. The rate of interest is subject to change on October 1 of each year.

j. "National Contingency Plan" or "NCP" shall mean the National Oil and Hazardous Substances Pollution Contingency Plan promulgated pursuant to Section 105 of CERCLA, 42 U.S.C. § 9605, codified at 40 C.F.R. Part 300, and any amendments thereto.

k. "Order" shall mean this Administrative Order on Consent and all appendices attached hereto (listed in Section XXXI). In the event of conflict between this Order and any appendix, this Order shall control.

l. "Paragraph" shall mean a portion of this Order identified by an Arabic numeral.

m. "Parties" shall mean EPA and Respondent.

n. "Portland Harbor Superfund Site" shall mean the Portland Harbor Superfund Site, in Portland, Multnomah County, Oregon, listed on the National Priorities List (NPL) on December 1, 2000, 65 Fed. Reg. 75179-01.

o. "RCRA" shall mean the Solid Waste Disposal Act, as amended, 42 U.S.C. §§ 6901, *et seq.* (also known as the Resource Conservation and Recovery Act).

p. "Removal Action Area" shall mean the areal location at and on which the removal action under this Order will be implemented, including post-removal site control, if necessary.

q. "Respondent" shall mean NW Natural, an Oregon Corporation, and the successor corporation to Northwest Natural Gas Company and Portland Gas and Coke Company.

r. "Section" shall mean a portion of this Order identified by a Roman numeral.

s. "Statement of Work" or "SOW" shall mean the statement of work for implementation of the removal action, as set forth in Appendix B to this Order, and any modifications made thereto in accordance with this Order.

t. "Waste Material" shall mean 1) any "hazardous substance" under Section 101(14) of CERCLA, 42 U.S.C. § 9601(14); 2) any pollutant or contaminant under Section 101(33) of CERCLA, 42 U.S.C. § 9601(33); 3) any "solid waste" under Section 1004(27) of RCRA, 42 U.S.C. § 6903(27); and 4) any "hazardous substance" under ORS 465.200 et seq.

u. "Work" shall mean all activities Respondent is required to perform under this Order.

IV. FINDINGS OF FACT

9. EPA finds the following facts which Respondent neither admits nor denies:

a. Respondent, NW Natural (formerly known as Northwest Natural Gas Company), owns the GASCO Site, located at 7900 NW St. Helens Road in Portland, Oregon. The GASCO Site is located adjacent to the Willamette River, at approximately River Mile 6. The GASCO Site is currently used as a liquified natural gas plant.

b. Northwest Natural Gas Company became the assumed name for the Portland Gas and Coke Company (GASCO) in 1958. GASCO purchased the Site around 1910. At that time, GASCO's property was approximately 85 acres larger than the Site is today. GASCO built and operated an oil gasification plant and by-products refinery on the Site between 1913 and 1956. Between 1913 and 1923, only gas and lampblack briquettes were produced. In 1923 by-products refining began. After 1925, when tar refining operations began, the quantity of tar within the waste stream would have decreased, but waste tar in the effluent continued to occur as suspended material and emulsions from the secondary tar box. Prior to 1941, all wastewater effluent and tar stills from the gasification process and by-product refining was discharged to a stream channel leading from the production area to the Willamette River, or to low lying areas of the GASCO site. After 1941, wastewater effluent and tar stills was disposed of in settling ponds on the northern portion of the Site. When the plant was shut down in 1956 an estimated 30,000 cubic yards of tar waste had accumulated in the ponds. The southern portion of the site was sold to Victor Rosenfeld and H.A. Anderson, who sold the property to the City of Portland, Portland Development Commission in 1972. In 1978, the City of Portland sold the property to Wacker Siltronic Corporation, now known as "Siltronic". The tar ponds on the northern portion of the Site were buried under 10 feet of fill in 1973.

c. Through several site investigations widespread waste contamination related to the oil gasification and by-product refining has been identified in site soils, groundwater, and Willamette River sediments. Tars have been identified to depths of 70 feet in the vicinity of the former tar disposal area. In the former plant site area, dense non-aqueous-phase liquids (DNAPLs) were identified at three distinct locations. Monitoring wells installed adjacent to the Willamette River detected elevated levels of benzene and naphthalene. Sediment samples were found to contain high concentrations of polycyclic aromatic hydrocarbons (PAHs) and oil tar waste (the "tar body") was found to be in the river off of the GASCO river bank.

d. When compared to probable effect concentration (PEC) guidelines for freshwater sediments, maximum contaminant concentrations in the tar body and/or adjacent sediment have been detected as follows: phenanthrene up to 5,400 mg/kg, more than 1000 times the PEC ; naphthalene up to 5,100 mg/kg, more than 1000 times the PEC, and total PAHs up to 26,409 mg/kg, more than 1000 times the PEC.

e. A Removal Action Memorandum for the GASCO Site was signed on April 28, 2004 and is attached to this Order as Appendix A.

V. CONCLUSIONS OF LAW AND DETERMINATIONS

10. Based on the Findings of Fact set forth above, and the Administrative Record supporting this removal action, EPA makes the following conclusions of law and determinations, which Respondents neither admit nor deny:

a. The GASCO Site is a "facility" as defined by Section 101(9) of CERCLA, 42 U.S.C. § 9601(9).

b. The contamination found at the Site, as identified in the Findings of Fact above, includes "hazardous substances" as defined by Section 101(14) of CERCLA, 42 U.S.C. § 9601(14).

c. Respondent is a "person" as defined by Section 101(21) of CERCLA, 42 U.S.C. § 9601(21).

d. Respondent is a responsible party under Section 107(a) of CERCLA, 42 U.S.C. § 9607(a), and liable for performance of response action and for response costs incurred and to be incurred at the Site. Respondent is the owner and operator of the facility, as defined by Section 101(20) of CERCLA, 42 U.S.C. § 9601(20), and within the meaning of Section 107(a)(1) of CERCLA, 42 U.S.C. § 9607(a)(1).

e. The conditions described in Paragraph 9 of the Findings of Fact and in the Action Memorandum attached hereto constitute an actual or threatened "release" of a hazardous substance from the facility as defined by Section 101(22) of CERCLA, 42 U.S.C. § 9601(22).

f. The removal action required by this Order is necessary to protect the public health, welfare, or the environment and, if carried out in compliance with the terms of this Order, will be considered consistent with the NCP, as provided in Section 300.700(c)(3)(ii) of the NCP.

VI. ORDER

Based upon the foregoing Findings of Fact, Conclusions of Law, Determinations, and the Administrative Record for this Site, it is hereby Ordered and Agreed that Respondent shall comply with all provisions of this Order, including, but not limited to, all attachments to this Order and all documents incorporated by reference into this Order.

VII. DESIGNATION OF CONTRACTOR, PROJECT COORDINATOR, AND ON-SCENE COORDINATOR

11. Respondent shall retain one or more contractors to perform the Work and shall notify EPA of the name(s) and qualifications of such contractor(s) within five (5) days of the Effective Date. Respondent shall also notify EPA of the name(s) and qualification(s) of any other contractor(s) or subcontractor(s) retained to perform the Work at least twenty (20) days prior to commencement of such Work. EPA retains the right to disapprove of any or all of the contractors and/or subcontractors retained by Respondent. If EPA disapproves of a selected contractor, Respondent shall retain a different contractor and shall notify EPA of that contractor's name and qualifications within ten (10) days of EPA's disapproval. Any proposed contractor must demonstrate compliance with ANSI/ASQC E-4-1994, "Specifications and Guidelines for Quality Systems for Environmental Data Collection and Environmental Technology Programs" (American National Standard, January 5, 1995), by submitting a copy of the proposed contractor's Quality Management Plan ("QMP"). The QMP should be prepared in accordance with "EPA Requirements for Quality Management Plans (QA/R-2)" (EPA/240/B0-1/002), or equivalent documentation as required by EPA.

12. Respondent has designated Robert J. Wyatt, R.G., NW Natural, 220 N.W. 2nd Avenue, Portland, Oregon, 97209, (503) 226-4211, x-5425, rjw@nwnatural.com, as its Project Coordinator. To the greatest extent possible, the Project Coordinator shall be present on Site or readily available during Site work. If Respondent decides to change its Project Coordinator, EPA retains the right to disapprove of the designated Project Coordinator. If EPA disapproves of the designated Project Coordinator, Respondent shall retain a different Project Coordinator and shall notify EPA of that person's name, address, telephone number, and qualifications within ten (10) days following EPA's disapproval. Receipt by Respondent's Project Coordinator of any notice or communication from EPA relating to this Order shall constitute receipt by Respondent.

13. EPA has designated Sean Sheldrake of the Office of Environmental Cleanup (ECL), Region X, as its On-Scene Coordinator ("OSC") and Project Coordinator. Except as otherwise provided in this Order, Respondent shall direct all submissions required by this Order to the Project Coordinator at 1200 Sixth Avenue, M/S ECL-111, Seattle, WA 98101 and via email to sheldrake.sean@epa.gov.

14. EPA and Respondent shall have the right, subject to Paragraph 12, to change their respective designated Project Coordinators. Respondent shall notify EPA five (5) days before such a change is made. The initial notification may be made orally, but shall be promptly followed by a written notice.

VIII. WORK TO BE PERFORMED

15. Respondent shall perform, at a minimum, all actions necessary to implement the Action Memorandum as further described in the Statement of Work, both of which are attached to this Order as Appendices A and B, respectively, and by this reference made enforceable parts of this Order. The actions to be implemented are provided in the Statement of Work (SOW).

16. Work Plan and Implementation.

a. Within thirty (30) days of the Effective Date, Respondent shall submit to EPA for approval a draft Removal Action Work Plan, including a design characterization Sampling and Analysis Plan (SAP). The draft Removal Action Work Plan shall provide a description of, and an expeditious schedule for, the actions required by this Order and all other information specified in the SOW. The Removal Action Work Plan shall contain a Quality Assurance Project Plan ("QAPP"). The QAPP should be prepared in accordance with "EPA Requirements for Quality Assurance Project Plans (QA/R-5)" (EPA/240/B-01/003, March 2001), and "EPA Guidance for Quality Assurance Project Plans (QA/G-5)" (EPA/600/R-98/018, February 1998).

b. EPA may approve, disapprove, require revisions to, or modify the draft Removal Action Work Plan in whole or in part. EPA approvals, requested revisions, or disapprovals will be in writing. If EPA requires revisions, Respondent shall submit a revised draft Removal Action Work Plan within thirty (30) days of receipt of EPA's notification of the required revisions. Respondent shall implement the Work Plan as approved in writing by EPA in accordance with the schedule approved by EPA. Once approved, or approved with modifications, the Work Plan, the schedule, and any subsequent modifications shall be incorporated into and become fully enforceable under this Order.

c. Respondent shall not commence any Work except in conformance with the terms of this Order. Respondent shall not commence implementation of the Work Plan developed hereunder until receiving written EPA approval pursuant to Paragraph 16(b).

17. Health and Safety Plan. Respondent shall submit for EPA review and comment a plan that ensures the protection of the public health and safety during performance of on-Site work under this Order. This plan shall be prepared in accordance with EPA's Standard Operating Safety Guide (PUB 9285.1-03, PB 92-963414, June 1992). In addition, the plan shall comply with all currently applicable Occupational Safety and Health Administration ("OSHA") regulations found at 29 C.F.R. Part 1910. If EPA determines that it is appropriate, the plan shall also include contingency planning. Respondent shall incorporate all changes to the plan recommended by EPA and shall implement the plan during the pendency of the removal action.

18. Quality Assurance and Sampling.

a. All sampling and analyses performed pursuant to this Order shall conform to EPA direction, approval, and guidance regarding sampling, quality assurance/quality control ("QA/QC"), data validation, and chain of custody procedures. Respondent shall ensure that the laboratory used to perform the analyses participates in a QA/QC program that complies with the appropriate EPA guidance. Respondent shall follow, as appropriate, "Quality Assurance/Quality Control Guidance for Removal Activities: Sampling QA/QC Plan and Data Validation Procedures" (OSWER Directive No. 9360.4-01, April 1, 1990), as guidance for QA/QC and sampling. Respondent shall only use laboratories that have a documented Quality System that complies with ANSI/ASQC E-4 1994, "Specifications and Guidelines for Quality Systems for Environmental Data Collection and Environmental Technology Programs" (American National Standard, January 5, 1995), and "EPA Requirements for Quality Management Plans (QA/R-2) (EPA/240/B-01/002, March 2001)," or equivalent documentation as determined by EPA. EPA may consider laboratories accredited under the National Environmental Laboratory Accreditation Program ("NELAP") as meeting the Quality System requirements.

b. Upon request by EPA, Respondent shall have such a laboratory analyze samples submitted by EPA for QA monitoring. Respondent shall provide to EPA the QA/QC procedures followed by all sampling teams and laboratories performing data collection and/or analysis.

c. Upon request by EPA, Respondent shall allow EPA or its authorized representatives to take split and/or duplicate samples. Respondent shall notify EPA not less than 20 days in advance of any sample collection activity, unless shorter notice is agreed to by EPA. EPA shall have the right to take any additional samples that EPA deems necessary. Upon request, EPA shall allow Respondent to take split or duplicate samples of any samples it takes as part of its oversight of Respondent's implementation of the Work.

19. Post-Removal Site Control. Along with the Monitoring and Reporting Plan required by the SOW, and in accordance with the Work Plan schedule, Respondents shall submit a proposal for post-removal site control consistent with Section 300.415(I) of the NCP and OSWER Directive No. 9360.2-02. Upon EPA approval, Respondent shall implement such controls and shall provide EPA with documentation of all post-removal site control arrangements.

20. Reporting.

a. Respondent shall submit a written progress report to EPA concerning actions undertaken pursuant to this Order no later than the 5th day of every month after the Effective Date of this Order until termination of this Order, unless otherwise directed in writing by the Project Coordinator/OSC. These reports shall describe all significant developments during the preceding period, including the actions performed and any problems encountered, analytical data received during the reporting period, and the developments anticipated during the next reporting period, including a schedule of actions to be performed, anticipated problems, and planned resolutions of past or anticipated problems. Respondent shall coordinate monthly meetings and/or telephone conferences as described in the SOW.

b. Respondent shall submit 3 copies of all plans, reports or other submissions required by this Order, the Statement of Work, or any approved work plan. Respondent shall submit such documents in electronic form in addition to hard copies. One additional copy of all correspondence shall be sent to:

Matt McClincy
Oregon Department of Environmental Quality
2020 SW Fourth Avenue, Suite 400
Portland, OR 97201-4987
mcclincy.matt@deq.state.or.us

c. Respondent shall, at least 30 days prior to the conveyance of any interest in real property at the Site, give written notice to the transferee that the property is subject to this Order and written notice to EPA and DEQ of the proposed conveyance, including the name and address of the transferee. Respondent also agree to require that their successors comply with the immediately proceeding sentence and Sections IX (Site Access) and X (Access to Information).

21. Removal Action Completion Report. Within sixty (60) days after completion of implementation of the construction phase of the removal action, Respondent shall submit for EPA review and approval a final report summarizing the actions taken to comply with this Order. The final report shall conform, at a minimum, with the requirements set forth in Section 300.165 of the NCP entitled "OSC Reports." The final report shall include a listing of quantities and types of materials removed off-Site or handled on-Site, a discussion of removal and disposal options considered for those materials, a listing of the ultimate destination(s) of those materials, a presentation of the analytical results of all sampling and analyses performed, and accompanying appendices containing all relevant documentation generated during the removal action (*e.g.*, manifests, and permits). The final report shall also include the following certification signed by a person who supervised or directed the preparation of that report:

"Under penalty of law, I certify that to the best of my knowledge, after appropriate inquiries of all relevant persons involved in the preparation of the report, the information submitted is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

22. Off-Site Shipments.

a. Respondent shall, prior to any off-Site shipment of Waste Material from the Site to an out-of-state waste management facility, provide written notification of such shipment of Waste Material to the appropriate state environmental official in the receiving facility's state and to the Project Coordinator/On-Scene Coordinator. However, this notification requirement shall not apply to any off-Site shipments when the total volume of all such shipments will not exceed 10 cubic yards.

i. Respondent shall include in the written notification the following information: 1) the name and location of the facility to which the Waste Material is to be shipped; 2) the type and quantity of the Waste Material to be shipped; 3) the expected schedule for the shipment of the Waste Material; and 4) the method of transportation. Respondent shall notify the state in which the planned receiving facility is located of major changes in the shipment plan, such as a decision to ship the Waste Material to another facility within the same state, or to a facility in another state.

ii. The identity of the receiving facility and state will be determined by Respondent following the award of the contract for the removal action. Respondent shall provide the information required by Paragraph 22(a) and 22(b) as soon as practicable after the award of the contract and before the Waste Material is actually shipped.

b. Before shipping any hazardous substances, pollutants, or contaminants from the Site to an off-site location, Respondent shall obtain EPA's certification that the proposed receiving facility is operating in compliance with the requirements of CERCLA Section 121(d)(3), 42 U.S.C. § 9621(d)(3), and 40 C.F.R. § 300.440. Respondent shall only send hazardous substances, pollutants, or contaminants from the Site to an off-site facility that complies with the requirements of the statutory provision and regulation cited in the preceding sentence.

IX. SITE ACCESS

23. For portions of the Site, and any other property where access is needed to implement this Order, that is owned or controlled by Respondent, Respondent shall, commencing on the Effective Date, provide EPA, and the State, their representatives, including contractors, with access at all reasonable times to the Site, or such other property, for the purpose of conducting any activity related to this Order. Respondent shall, commencing on the Effective Date, provide the Natural Resource Trustee agencies and Native American Tribes with access at all reasonable times to the Site or Removal Action Area if those agencies and Tribes comply with applicable security procedures.

24. Where any action under this Order is to be performed in areas owned by or in possession of someone other than Respondent, Respondent shall use its best efforts to obtain all necessary access agreements within forty-five (45) days after the Effective Date, or as otherwise specified in writing by the Project Coordinator/OSC. Respondent shall immediately notify EPA if after using its best efforts is unable to obtain such agreements. For purposes of this Paragraph, "best efforts" includes the payment of reasonable sums of money in consideration of access. Respondent shall describe in writing its efforts to obtain access. EPA may then assist Respondent in gaining access, to the extent necessary to effectuate the response actions described herein, using such means as EPA deems appropriate. Respondent may request EPA's assistance in obtaining access. Respondent shall reimburse EPA for all costs and attorney's fees incurred by the United States in obtaining such access, in accordance with the procedures in Section XV (Payment of Response Costs).

25. Notwithstanding any provision of this Order, EPA and the State retain all of their access authorities, including enforcement authorities related thereto, under CERCLA, RCRA, and any other applicable statutes or regulations.

X. ACCESS TO INFORMATION

26. Respondent shall provide to EPA, upon request, copies of all documents and information within their possession or control or that of their contractors or agents relating to removal activities at the Site or to the implementation of this Order, including, but not limited to, sampling, analysis, chain of custody records, manifests, trucking logs, receipts, reports, sample traffic routing, correspondence, or other documents or information related to the Work. Respondent shall also make available to EPA, for purposes of investigation, information gathering, or testimony, their employees, agents, or representatives with knowledge of relevant facts concerning the performance of the Work.

27. Respondent may assert business confidentiality claims covering part or all of the documents or information submitted to EPA under this Order to the extent permitted by and in accordance with Section 104(e)(7) of CERCLA, 42 U.S.C. § 9604(e)(7), and 40 C.F.R. § 2.203(b). Documents or information determined to be confidential by EPA will be afforded the protection specified in 40 C.F.R. Part 2, Subpart B. If no claim of confidentiality accompanies documents or information when they are submitted to EPA, or if EPA has notified Respondent that the documents or information are not confidential under the standards of Section 104(e)(7) of CERCLA or 40 C.F.R. Part 2, Subpart B, the public may be given access to such documents or information without further notice to Respondent.

28. Respondent may assert that certain documents, records and other information are privileged under the attorney-client privilege or any other privilege recognized by federal law. If the Respondent asserts such a privilege in lieu of providing documents, it shall provide EPA with the following: 1) the title of the document, record, or information; 2) the date of the document, record, or information; 3) the name and title of the author of the document, record, or information; 4) the name and title of each addressee and recipient; 5) a description of the contents of the document, record, or information; and 6) the privilege asserted by Respondent. However, no documents, reports or other information created or generated pursuant to the requirements of this Order shall be withheld on the grounds that they are privileged.

29. No claim of confidentiality shall be made with respect to any data, including, but not limited to, all sampling, analytical, monitoring, hydrogeologic, scientific, chemical, or engineering data, or any other documents or information evidencing conditions at or around the Site.

XI. RECORD RETENTION

30. Until 10 years after Respondent's receipt of EPA's notification pursuant to Section XXIX (Notice of Completion of Work), Respondent shall preserve and retain all non-identical copies of records and documents (including records or documents in electronic form) now in its possession or control or which come into its possession or control that relate in any manner to the performance of the Work or the liability of any person under CERCLA with respect to the Site, regardless of any corporate retention policy to the contrary, unless Respondent has requested and received EPA's written permission to destroy such documents. Until 10 years after Respondent's receipt of EPA's notification pursuant to Section XXIX (Notice of Completion of Work), Respondent shall also instruct its contractors and agents to preserve all documents, records, and information of whatever kind, nature or description relating to performance of the Work.

31. At the conclusion of this document retention period, Respondent shall notify EPA at least 90 days prior to the destruction of any such records or documents, and, upon request by EPA, Respondent shall deliver any such records or documents to EPA. Respondent may assert that certain documents, records and other information are privileged under the attorney-client privilege or any other privilege recognized by federal law. If Respondent asserts such a privilege, it shall provide EPA with the following: 1) the title of the document, record, or information; 2) the date of the document, record, or information; 3) the name and title of the author of the document, record, or information; 4) the name and title of each addressee and recipient; 5) a description of the subject of the document, record, or information; and 6) the privilege asserted by Respondent. However, no documents, reports or other information created or generated pursuant to the requirements of this Order shall be withheld on the grounds that they are privileged.

32. Respondent hereby certifies that to the best of its knowledge and belief, after thorough inquiry, it has not altered, mutilated, discarded, destroyed or otherwise disposed of any records, documents or other information (other than identical copies) relating to its potential liability regarding the Site since notification of potential liability by EPA or the State or the filing of suit against it regarding the Site and that it has fully complied with any and all EPA requests for information pursuant to Sections 104(e) and 122(e) of CERCLA, 42 U.S.C. §§ 9604(e) and 9622(e), and Section 3007 of RCRA, 42 U.S.C. § 6927.

XII. COMPLIANCE WITH OTHER LAWS

33. Respondent shall perform all actions required pursuant to this Order in accordance with all applicable local, state, and federal laws and regulations except as provided in Section 121(e) of CERCLA, 42 U.S.C. § 6921(e), and 40 C.F.R. §§ 300.400(e) and 300.415(j). In accordance with 40 C.F.R. § 300.415(j), all on-Site actions required pursuant to this Order shall, to the extent

practicable, as determined by EPA, considering the exigencies of the situation, attain applicable or relevant and appropriate requirements ("ARARs") under federal environmental or state environmental or facility siting laws. Respondent shall identify ARARs in the Removal Action Work Plan subject to EPA approval. No local, state, or federal permit shall be required for any action conducted entirely on-Site, including investigation, removal or disposal activities, where such action is selected and carried out in compliance with this Order.

XIII. EMERGENCY RESPONSE AND NOTIFICATION OF RELEASES

34. In the event of any action or occurrence during performance of the Work which causes or threatens a release of Waste Material from the Site that constitutes an emergency situation or may present an immediate threat to public health or welfare or the environment, Respondent shall immediately take all appropriate action. Respondent shall take these actions in accordance with all applicable provisions of this Order, including, but not limited to, the Health and Safety Plan, in order to prevent, abate or minimize such release or endangerment caused or threatened by the release. Respondent shall also immediately notify the Project Coordinator/OSC or, in the event of his/her unavailability, the Regional Duty Officer, Environmental Cleanup Office, Emergency Response Unit, EPA, Region X, 206-553-1263, of the incident or Site conditions. In the event that Respondent fails to take appropriate response action as required by this Paragraph, and EPA takes such action instead, Respondent shall reimburse EPA all costs of the response action not inconsistent with the NCP pursuant to Section XV (Payment of Response Costs).

35. In addition, in the event of any release of a hazardous substance from the Site, Respondent shall immediately notify the Project Coordinator/OSC and the National Response Center at (800) 424-8802. Respondent shall submit a written report to EPA within 7 days after each release, setting forth the events that occurred and the measures taken or to be taken to mitigate any release or endangerment caused or threatened by the release and to prevent the reoccurrence of such a release. This reporting requirement is in addition to, and not in lieu of, reporting under Section 103(c) of CERCLA, 42 U.S.C. § 9603(c), and Section 304 of the Emergency Planning and Community Right-To-Know Act of 1986, 42 U.S.C. § 11004, *et seq.*

XIV. AUTHORITY OF ON-SCENE COORDINATOR

36. The OSC shall be responsible for overseeing Respondent's implementation of this Order. The OSC shall have the authority vested in an OSC by the NCP, including the authority to halt, conduct (consistent with Paragraph 59 below), or direct any Work required by this Order, or to direct any other removal action undertaken at the Site. Absence of the OSC from the Site shall not be cause for stoppage of work unless specifically directed by the OSC.

XV. PAYMENT OF RESPONSE COSTS

37. Payments for Future Response Costs.

a. Respondent shall pay EPA all Future Response Costs, as defined in Section III. of this Order, and not inconsistent with the NCP. On a periodic basis, EPA will send Respondent a bill requiring payment that includes a certified Agency Financial Management System summary (SCORPIOS), or other regionally prepared cost summary, which includes direct and indirect costs incurred by EPA and its contractors. Respondent shall make all payments within 30 days of receipt of each bill requiring payment, except as otherwise provided in Paragraph 39 of this Order. Within the 30-day payment period, Respondent may request the following underlying EPA oversight cost documentation: EPA personnel time sheets, travel authorizations and vouchers; EPA contractor monthly invoices, and all applicable contract laboratory program (CLP) invoices.

b. Respondent shall make all payments required by this Paragraph by a certified or cashier's check or checks made payable to "EPA Hazardous Substance Superfund-Portland Harbor Special Account," referencing the name and address of Respondent, the Docket Number of this Order, and EPA Site/Spill ID number 10BW and shall be clearly designated as Response Costs: Portland Harbor Superfund Site, GASCO Facility Removal Action. Respondent shall send the check(s) to:

Mellon Client Services Center
EPA Region 10
ATTN: Superfund Accounting
P.O. Box 360903M
500 Ross Street
Pittsburgh, Pennsylvania 15251

c. At the time of payment, Respondent shall send notice that payment has been made to: (1) EPA's Project Manager/OSC, and (2) Financial Management Officer, Environmental Protection Agency, Region X, 1200 Sixth Avenue, M/S OMP-146, Seattle, WA 98101-1128.

d. The total amount to be paid by Respondent pursuant to Paragraph 37(a) shall be deposited in the Portland Harbor Special Account within the EPA Hazardous Substance Superfund to be retained and used to conduct or finance response actions at or in connection with the Portland Harbor Superfund Site, or to be transferred by EPA to the EPA Hazardous Substance Superfund.

38. In the event that payments for Future Response Costs are not made within 30 days of Respondent's receipt of a bill, Respondent shall pay Interest on the unpaid balance. The Interest on

Future Response Costs shall begin to accrue on the date of the bill and shall continue to accrue until the date of payment. Payments of Interest made under this Paragraph shall be in addition to such other remedies or sanctions available to the United States by virtue of Respondent's failure to make timely payments under this Section, including but not limited to, payment of stipulated penalties pursuant to Section XVIII.

39. Respondent may dispute all or part of a bill for Future Response Costs submitted under this Order, if Respondent alleges that EPA has made an accounting error, if Respondent alleges that a cost item is inconsistent with the NCP, or billed costs are outside the scope of this Order. If any dispute over costs is resolved before payment is due, the amount due will be adjusted as necessary. If the dispute is not resolved before payment is due, Respondent shall pay the full amount of the uncontested costs to EPA as specified in Paragraph 37 on or before the due date. Within the same time period, Respondent shall pay the full amount of the contested costs into an interest-bearing escrow account. Respondent shall simultaneously transmit a copy of both checks to the persons listed in Paragraph 37(c) above. Respondent shall ensure that the prevailing party or parties in the dispute shall receive the amount upon which they prevailed from the escrow funds plus interest within ten (10) days after the dispute is resolved.

XVI. DISPUTE RESOLUTION

40. Unless otherwise expressly provided for in this Order, the dispute resolution procedures of this Section shall be the exclusive mechanism for resolving disputes arising under this Order. The Parties shall attempt to resolve any disagreements concerning this Order expeditiously and informally.

41. If Respondent objects to any EPA action taken pursuant to this Order, including billings for Future Response Costs, it shall notify EPA in writing of its objections within five (5) days of such action, unless the objections have been resolved informally, or EPA has agreed to extend the informal dispute resolution period in writing. EPA and Respondent shall have ten (10) working days from EPA's receipt of Respondent's written objections to resolve the dispute through formal negotiations (the "Negotiation Period"). The Negotiation Period may be extended at the sole discretion of EPA. At EPA's discretion and approval, the record may be supplemented during the Negotiation Period. EPA may in its discretion write a written response to Respondent's objections.

42. Any agreement reached by the parties pursuant to this Section shall be in writing and shall, upon signature by both parties, be incorporated into and become an enforceable part of this Order. If the Parties are unable to reach an agreement within the Negotiation Period, the Director, Office of Environmental Cleanup, will issue a written decision on the dispute to Respondent. EPA's decision shall be incorporated into and become an enforceable part of this Order. Respondent's obligations under this Order shall not be tolled by submission of any objection for dispute resolution under this

Section. Following resolution of the dispute, as provided by this Section, Respondent shall fulfill the requirement that was the subject of the dispute in accordance with the agreement reached or with EPA's decision, whichever occurs. If Respondent does not comply with EPA's final administrative decision, EPA may seek stipulated or statutory penalties from Respondent for violation of the Order, conduct any portion of the Work, and/or pursue any other enforcement option provided in CERCLA. If EPA seeks to enforce this Order in court, Respondent may seek judicial review of EPA's final administrative decision based on the administrative record for the removal action. The standard of judicial review of any EPA dispute decision under this Order shall be the arbitrary and capricious standard.

XVII. FORCE MAJEURE

43. Respondent agrees to perform all requirements of this Order within the time limits established under this Order, unless the performance is delayed by a *force majeure*. For purposes of this Order, a *force majeure* is defined as any event arising from causes beyond the control of Respondent, or of any entity controlled by Respondent, including but not limited to its contractors and subcontractors, which delays or prevents performance of any obligation under this Order despite Respondent's best efforts to fulfill the obligation. *Force majeure* does not include financial inability to complete the Work, increased cost of performance, or a failure to attain criteria or performance standards set forth in the Action Memorandum as further described in the SOW.

44. If any event occurs or has occurred that may delay the performance of any obligation under this Order, whether or not caused by a *force majeure* event, Respondent shall notify EPA orally within five (5) days of when Respondent first knew that the event might cause a delay. Within five (5) days thereafter, Respondent shall provide to EPA in writing an explanation and description of the reasons for the delay; the anticipated duration of the delay; all actions taken or to be taken to prevent or minimize the delay; a schedule for implementation of any measures to be taken to prevent or mitigate the delay or the effect of the delay; Respondent's rationale for attributing such delay to a *force majeure* event if they intend to assert such a claim; and a statement as to whether, in the opinion of Respondent, such event may cause or contribute to an endangerment to public health, welfare or the environment. Failure to comply with the above requirements shall preclude Respondent from asserting any claim of *force majeure* for that event for the period of time of such failure to comply and for any additional delay caused by such failure.

45. If EPA agrees that the delay or anticipated delay is attributable to a *force majeure* event, the time for performance of the obligations under this Order that are affected by the *force majeure* event will be extended by EPA for such time as is necessary to complete those obligations. An extension of the time for performance of the obligations affected by the *force majeure* event shall not, of itself, extend the time for performance of any other obligation. If EPA does not agree that the delay

or anticipated delay has been or will be caused by a *force majeure* event, EPA will notify Respondent in writing of its decision. If EPA agrees that the delay is attributable to a *force majeure* event, EPA will notify Respondent in writing of the length of the extension, if any, for performance of the obligations affected by the *force majeure* event.

XVIII. STIPULATED PENALTIES

46. Respondent shall be liable to EPA for stipulated penalties in the amounts set forth in Paragraphs 47 and 48 for failure to comply with the requirements of this Order specified below, unless excused under Section XVII (*Force Majeure*). "Compliance" by Respondent shall include completion of the activities under this Order or any work plan or other plan approved under this Order identified below in accordance with all applicable requirements of law, this Order, the SOW, and any plans or other documents approved by EPA pursuant to this Order and within the specified time schedules established by and approved under this Order.

47. Stipulated Penalty Amounts - Work.

a. The following stipulated penalties shall accrue per violation per day for any noncompliance identified in Paragraph 47(b):

<u>Penalty Per Violation Per Day</u>	<u>Period of Noncompliance</u>
\$ 500	1 st through 7 th day
\$1,000	8 th through 14 th day
\$2,500	15 th through 30 th day
\$5,000	31 st day and beyond

b. Compliance Milestones

- i. Retention of Contractor
- ii. Draft/Final Removal Action Work Plan
- iii. Start and Finish of Design Characterization Sampling
- iv. Draft/Final Removal Action Design
- v. On site work beginning on the schedule in the approved design
- vi. Draft/Final Removal Action Completion Report

48. Stipulated Penalty Amounts - Reports. Other Non-Compliance, including late Payment of Future Response Costs. The following stipulated penalties shall accrue per violation per day for failure to submit timely or adequate reports or other written documents pursuant to this Order that are not

listed in Paragraph 47.b. The following stipulated penalties shall accrue per violation per day for any non-compliance with the requirements of this Order, including late payments of Future Response Costs.

Penalty Per Violation Per DayPeriod of Noncompliance

\$250	1 st through 7 th day
\$500	8 th through 14 th day
\$1,500	15 th through 30 th day
\$2,500	31 st day and beyond

49. In the event that EPA assumes performance of a portion or all of the Work pursuant to Paragraph 59 of Section XX, Respondent shall be liable for a stipulated penalty in the amount of \$200,000, or 25% of the cost of the Work EPA performs, whichever is less, in addition to repayment of EPA's response costs incurred as a result of EPA's assumption of the Work pursuant to Paragraph 59 (Work Takeover).

50. All penalties shall begin to accrue on the day after the complete performance is due or the day a violation occurs(except a stipulated penalty assessed pursuant to Paragraph 49), and shall continue to accrue through the final day of the correction of the noncompliance or completion of the activity. However, stipulated penalties shall not accrue: 1) with respect to a deficient submission under Section VIII (Work to be Performed), during the period, if any, beginning on the 31st day after EPA's receipt of such submission until the date that EPA notifies Respondent of any deficiency; and 2) with respect to a decision by the EPA's Office Director, under Paragraph 42 of Section XVI (Dispute Resolution), during the period, if any, beginning on the 21st day after the Negotiation Period begins until the date that the EPA Office Director issues a final decision regarding such dispute. Nothing herein shall prevent the simultaneous accrual of separate penalties for separate violations of this Order.

51. Following EPA's determination that Respondent has failed to comply with a requirement of this Order, EPA may give Respondent written notification of the failure and describe the noncompliance. EPA may send Respondent a written demand for payment of the penalties. However, penalties shall accrue as provided in the preceding Paragraph regardless of whether EPA has notified Respondent of a violation.

52. All penalties accruing under this Section shall be due and payable to EPA within 30 days of Respondent's receipt from EPA of a demand for payment of the penalties, unless Respondent invokes the dispute resolution procedures under Section XVI (Dispute Resolution). All payments to EPA under this Section shall be paid by certified or cashier's check(s) made payable to "EPA Hazardous Substances Superfund," shall be mailed to the LockBox number and address set forth in Paragraph 37.b., shall indicate that the payment is for stipulated penalties, and shall reference the EPA

Region and Site/Spill ID Number 10BW, the EPA Docket Number of this Order, and the name and address of the party making payment. Copies of check(s) paid pursuant to this Section, and any accompanying transmittal letter(s), shall be sent to EPA as provided in Paragraph 37.c.

53. The payment of penalties shall not alter in any way Respondent's obligation to complete performance of the Work required under this Order.

54. Except a stipulated penalty assessed pursuant to Paragraph 49, penalties shall continue to accrue during any dispute resolution period, but need not be paid until 15 days after the dispute is resolved by agreement or by receipt of EPA's decision.

55. If Respondent fails to pay stipulated penalties when due, EPA may institute proceedings to collect the penalties, as well as Interest. Respondent shall pay Interest on the unpaid balance, which shall begin to accrue on the date of demand made pursuant to Paragraph 52. Nothing in this Order shall be construed as prohibiting, altering, or in any way limiting the ability of EPA to seek any other remedies or sanctions available by virtue of Respondent's violation of this Order or of the statutes and regulations upon which it is based, including, but not limited to, penalties pursuant to Sections 106(b) and 122(I) of CERCLA, 42 U.S.C. §§ 9606(b) and 9622(I), and punitive damages pursuant to Section 107(c)(3) of CERCLA, 42 U.S.C. § 9607(c)(3). Provided, however, that EPA shall not seek civil penalties pursuant to Section 106(b) or 122(I) of CERCLA or punitive damages pursuant to Section 107(c)(3) of CERCLA for any violation for which a stipulated penalty is provided herein, except in the case of a willful violation of this Order or in the event that EPA assumes performance of a portion or all of the Work pursuant to Section XX, Paragraph 59. Notwithstanding any other provision of this Section, EPA may, in its unreviewable discretion, waive any portion of stipulated penalties that have accrued pursuant to this Order.

XIX. COVENANT NOT TO SUE BY EPA

56. In consideration of the actions that will be performed and the payments that will be made by Respondent under the terms of this Order, and except as otherwise specifically provided in this Order, EPA covenants not to sue or to take administrative action against Respondent pursuant to Sections 106 and 107(a) of CERCLA, 42 U.S.C. §§ 9606 and 9607(a), for performance of the Work and for recovery of Future Response Costs, as defined in Section III of this Order. This covenant not to sue is conditioned upon the complete and satisfactory performance by Respondent of its obligations under this Order, including, but not limited to, payment of Future Response Costs pursuant to Section XV. This covenant not to sue extends only to Respondent and does not extend to any other person.

XX. RESERVATIONS OF RIGHTS BY EPA

57. Except as specifically provided in this Order, nothing herein shall limit the power and authority of EPA or the United States to take, direct, or order all actions necessary to protect public health, welfare, or the environment or to prevent, abate, or minimize an actual or threatened release of hazardous substances, pollutants or contaminants, or hazardous or solid waste on, at, or from the Site. Further, nothing herein shall prevent EPA from seeking legal or equitable relief to enforce the terms of this Order, from taking other legal or equitable action as it deems appropriate and necessary, or from requiring Respondent in the future to perform additional activities pursuant to CERCLA or any other applicable law.

58. The covenant not to sue set forth in Section XIX above does not pertain to any matters other than those expressly identified therein. EPA reserves, and this Order is without prejudice to, all rights against Respondent with respect to all other matters, including, but not limited to:

- a. claims based on a failure by Respondent to meet a requirement of this Order;
- b. liability for costs not included within the definition of Future Response Costs;
- c. liability for performance of response action other than the Work;
- d. criminal liability;
- e. liability for damages for injury to, destruction of, or loss of natural resources, and for the costs of any natural resource damage assessments;
- f. liability arising from the past, present, or future disposal, release or threat of release of Waste Materials outside of the Removal Action Area; and
- g. liability for costs incurred or to be incurred by the Agency for Toxic Substances and Disease Registry related to the Portland Harbor Superfund Site and the GASCO Site.

59. Work Takeover. In the event EPA determines that Respondent has ceased implementation of any portion of the Work, is seriously or repeatedly deficient or late in its performance of the Work, or is implementing the Work in a manner which may cause an endangerment to human health or the environment, EPA may assume the performance of all or any portion of the Work as EPA determines necessary. Respondent may invoke the procedures set forth in Section XVI (Dispute Resolution) to dispute EPA's determination that takeover of the Work is warranted under this Paragraph. Costs incurred by the United States in performing the Work pursuant to this Paragraph

shall be considered Future Response Costs that Respondent shall pay pursuant to Section XV (Payment of Response Costs). Notwithstanding any other provision of this Order, EPA retains all authority and reserves all rights to take any and all response actions authorized by law.

60. Except as specifically provided in this Order, including but not limited to, Section I, Paragraph 4, and Section XXI., each party reserves all rights, claims, privileges and defenses it may have. EPA's or Respondent's failure to specifically reserve a particular right herein shall not be construed as a waiver of that right.

XXI. COVENANT NOT TO SUE BY RESPONDENT

61. Respondent covenants not to sue and agrees not to assert any claims or causes of action against the United States, or its contractors or employees, with respect to the Work, Future Response Costs, or this Order, including, but not limited to:

a. any direct or indirect claim for reimbursement from the Hazardous Substance Superfund established by 26 U.S.C. § 9507, based on Sections 106(b)(2), 107, 111, 112, or 113 of CERCLA, 42 U.S.C. §§ 9606(b)(2), 9607, 9611, 9612, or 9613, or any other provision of law;

b. any claim arising out of response actions at or in connection with the GASCO Site, including any claim under the United States Constitution, the State Constitution, the Tucker Act, 28 U.S.C. § 1491, the Equal Access to Justice Act, 28 U.S.C. § 2412, as amended, or at common law;
or

c. any claim against the United States pursuant to Sections 107 and 113 of CERCLA, 42 U.S.C. §§ 9607 and 9613, relating to the GASCO Site.

Except as provided in Paragraph 69 (Waiver of Claims), these covenants not to sue shall not apply in the event the United States brings a cause of action or issues an order pursuant to the reservations set forth in Paragraphs 58 (b), (c), and (e) - (g), but only to the extent that Respondent's claims arise from the same response action, response costs, or damages that the United States is seeking pursuant to the applicable reservation.

62. Nothing in this Agreement shall be deemed to constitute approval or preauthorization of a claim within the meaning of Section 111 of CERCLA, 42 U.S.C. § 9611, or 40 C.F.R. § 300.700(d).

XXII. OTHER CLAIMS

63. By issuance of this Order, the United States and EPA assume no liability for injuries or damages to persons or property resulting from any acts or omissions of Respondent. The United States or EPA shall not be deemed a party to any contract entered into by Respondent or its directors, officers, employees, agents, successors, representatives, assigns, contractors, or consultants in carrying out actions pursuant to this Order.

64. Except as expressly provided in Section XIX (Covenant Not to Sue by EPA), nothing in this Order constitutes a satisfaction of or release from any claim or cause of action against Respondent or any person not a party to this Order, for any liability such person may have under CERCLA, other statutes, or common law, including but not limited to any claims of the United States for costs, damages and interest under Sections 106 and 107 of CERCLA, 42 U.S.C. §§ 9606 and 9607.

65. No action or decision by EPA pursuant to this Order shall give rise to any right to judicial review, except as set forth in Section 113(h) of CERCLA, 42 U.S.C. § 9613(h).

XXIII. CONTRIBUTION PROTECTION

66. The Parties agree that Respondent is entitled, as of the Effective Date, to protection from contribution actions or claims as provided by Sections 113(f)(2) and 122(h)(4) of CERCLA, 42 U.S.C. §§ 9613(f)(2) and 9622(h)(4), for "matters addressed" in this Order. The "matters addressed" in this Order are the Work and Future Response Costs. Nothing in this Order precludes the United States or Respondent from asserting any claims, causes of action, or demands against any persons not parties to this Order for indemnification, contribution, or cost recovery.

XXIV. INDEMNIFICATION

67. Respondent shall indemnify, save and hold harmless the United States, its officials, agents, contractors, subcontractors, employees and representatives from any and all claims or causes of action arising from, or on account of, negligent or other wrongful acts or omissions of Respondent, its officers, directors, employees, agents, contractors, or subcontractors, in carrying out actions pursuant to this Order. In addition, Respondent agrees to pay the United States all costs incurred by the United States, including but not limited to attorneys fees and other expenses of litigation and settlement, arising from or on account of claims made against the United States based on negligent or other wrongful acts or omissions of Respondent, its officers, directors, employees, agents, contractors, subcontractors and any persons acting on its behalf or under their control, in carrying out activities pursuant to this Order. The United States shall not be held out as a party to any contract entered into by or on behalf of

Respondent in carrying out activities pursuant to this Order. Neither Respondent nor any such contractor shall be considered an agent of the United States.

68. The United States shall give Respondent notice of any claim for which the United States plans to seek indemnification pursuant to this Section and shall consult with Respondent prior to settling such claim.

69. Respondent waives all claims against the United States for damages or reimbursement or for set-off of any payments made or to be made to the United States, arising from or on account of any contract, agreement, or arrangement between Respondent and any person for performance of Work on or relating to the Site, including, but not limited to, claims on account of construction delays. In addition, Respondent shall indemnify and hold harmless the United States with respect to any and all claims for damages or reimbursement arising from or on account of any contract, agreement, or arrangement between Respondent and any person for performance of Work on or relating to the Site, including, but not limited to, claims on account of construction delays.

XXV. INSURANCE

70. Within thirty (30) days of the Effective Date of this Order, Respondent shall secure, and shall maintain for the duration of this Order, comprehensive general liability insurance and automobile insurance with limits of \$1 million dollars, per occurrence, plus Umbrella insurance in excess of the comprehensive general liability and automobile liability coverage in the amount of \$4 million per occurrence. Within the same time period, Respondent shall provide EPA with certificates of such insurance and a copy of each insurance policy. In addition, for the duration of the Order, Respondent shall satisfy, or shall ensure that their contractors or subcontractors satisfy, all applicable laws and regulations regarding the provision of worker's compensation insurance for all persons performing the Work on behalf of Respondent in furtherance of this Order. If Respondent demonstrates by evidence satisfactory to EPA that any contractor or subcontractor maintains insurance equivalent to that described above, or insurance covering some or all of the same risks but in an equal or lesser amount, then Respondent need provide only that portion of the insurance described above which is not maintained by such contractor or subcontractor.

XXVI. FINANCIAL ASSURANCE

71. Within 30 days of the Effective Date, Respondent shall establish and maintain financial security in the amount of \$4,663,000 Million in one or more of the following forms:

- a. A surety bond guaranteeing performance of the Work;

- b. One or more irrevocable letters of credit equaling the total estimated cost of the Work;
- c. A trust fund;
- d. A guarantee to perform the Work by one or more parent corporations or subsidiaries, or by one or more unrelated corporations that have a substantial business relationship with Respondent; or
- e. A demonstration that Respondent satisfies the requirements of 40 C.F.R. Part 264.143(f).

72. If Respondent seeks to demonstrate the ability to complete the Work through a guarantee by a third party pursuant to Paragraph 71(a) of this Section, Respondent shall demonstrate that the guarantor satisfies the requirements of 40 C.F.R. Part 264.143(f). If Respondent seeks to demonstrate their ability to complete the Work by means of the financial test or the corporate guarantee pursuant to Paragraph 71(d) or (e) of this Section, it shall resubmit sworn statements conveying the information required by 40 C.F.R. Part 264.143(f) annually, on the anniversary of the Effective Date. In the event that EPA determines at any time that the financial assurances provided pursuant to this Section are inadequate, Respondent shall, within 30 days of receipt of notice of EPA's determination, obtain and present to EPA for approval one of the other forms of financial assurance listed in Paragraph 71 of this Section. Respondent's inability to demonstrate financial ability to complete the Work shall not excuse performance of any activities required under this Order.

73. If, after the Effective Date, Respondent can show that the estimated cost to complete the remaining Work has diminished below 25% the amount set forth in Paragraph 71 of this Section, Respondent may, on any anniversary date of the Effective Date, or at any other time agreed to by the Parties, reduce the amount of the financial security provided under this Section to the estimated cost of the remaining Work to be performed. Respondent shall submit a proposal for such reduction to EPA, in accordance with the requirements of this Section, and may reduce the amount of the security upon approval by EPA. In the event of a dispute, Respondent may reduce the amount of the security in accordance with the written decision resolving the dispute.

74. Respondent may change the form of financial assurance provided under this Section at any time, upon notice to and approval by EPA, provided that the new form of assurance meets the requirements of this Section. In the event of a dispute, Respondent may change the form of the financial assurance only in accordance with the written decision resolving the dispute.

XXVII. MODIFICATIONS

75. The OSC may make modifications to any plan or schedule or Statement of Work in writing or by oral direction. Any oral modification will be memorialized in writing by EPA promptly, but shall have as its effective date the date of the OSC's oral direction. Any other requirements of this Order may be modified in writing by mutual agreement of the parties.

76. If Respondent seeks permission to deviate from any approved work plan or schedule or Statement of Work, Respondent's Project Coordinator shall submit a written request to EPA for approval outlining the proposed modification and its basis. Respondent may not proceed with the requested deviation until receiving oral or written approval from the OSC pursuant to Paragraph 75.

77. No informal advice, guidance, suggestion, or comment by the OSC or other EPA representatives regarding reports, plans, specifications, schedules, or any other writing submitted by Respondent shall relieve Respondent of its obligation to obtain any formal approval required by this Order, or to comply with all requirements of this Order, unless it is formally modified.

XXVIII. NOTICE OF COMPLETION OF WORK

78. When EPA determines, after EPA's review of the Final Report, that all Work has been fully performed in accordance with this Order, with the exception of any continuing obligations required by this Order, including, but not limited to, post-removal site controls, payment of Future Response Costs, or record retention, EPA will provide written notice to Respondent. If EPA determines that any such Work has not been completed in accordance with this Order, EPA will notify Respondent, provide a list of the deficiencies, and require that Respondent modify the Work Plan if appropriate in order to correct such deficiencies. Respondent shall implement the modified and approved Work Plan and shall submit a modified Final Report in accordance with the EPA notice. Failure by Respondent to implement the approved modified Work Plan shall be a violation of this Order.

XXIX. SEVERABILITY/INTEGRATION/APPENDICES

79. If a court issues an order that invalidates any provision of this Order or finds that Respondent has sufficient cause not to comply with one or more provisions of this Order, Respondent shall remain bound to comply with all provisions of this Order not invalidated or determined to be subject to a sufficient cause defense by the court's order.

80. This Order and its appendices constitute the final, complete and exclusive agreement and understanding among the Parties with respect to the settlement embodied in this Order. The parties acknowledge that there are no representations, agreements or understandings relating to the settlement other than those expressly contained in this Order.

XXX. LIST OF APPENDICES

81. The following Appendices are attached to this Order and by this reference are incorporated into this Order and made an enforceable part hereof:

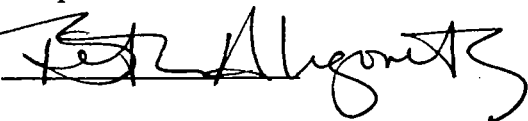
Appendix A - Action Memorandum
Appendix B - Statement of Work
Appendix C - Map of GASCO Site
Appendix D - Map of Removal Action Area

XXXI. EFFECTIVE DATE

82. This Order shall be effective the day it is signed and issued by EPA. The undersigned representative of Respondent certifies that it is fully authorized to enter into the terms and conditions of this Order and to bind the party it represents to this document.

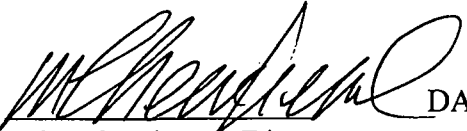
Agreed this 23rd day of April, 2004 .

For Respondent NW Natural

By 

Title ScVP, Gen Counsel

It is so ORDERED and Agreed this 20th day of April, 2004.

BY:  DATE: 4/20/04
Michael F. Gearheard, Director
Environmental Cleanup Office
Region 10
U.S. Environmental Protection Agency

EFFECTIVE DATE: 4/28/04

Appendix A to Administrative Order on Consent for Removal Action
Docket Number 10-2004-0068



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue
Seattle, Washington 98101

Reply To
Attn Of: ECL-112

ACTION MEMORANDUM / ENFORCEMENT

DATE: Apr 11 28, 2004

SUBJECT: Request for a Removal Action at the GASCO site, Portland, Multnomah County, Oregon; Site ID: BW

FROM: Sean Sheldrake
Remedial Project Manager

TO: Michael F. Gearheard, Director
Office of Environmental Cleanup

THRU: Sylvia Kawabata, Manager
Site Cleanup Unit 2
Office of Environmental Cleanup

for Chris Field, Manager
Emergency Response Unit
Office of Environmental Cleanup

I. PURPOSE

The purpose of this Action Memorandum is to request and document approval for a Removal Action described herein for the GASCO site, Portland, Multnomah County, Oregon. The Removal is required for immediate reduction of the risk to the public and the environment from the uncontrolled hazardous substances at the GASCO site.

II. SITE CONDITIONS AND BACKGROUND

The U.S. Environmental Protection Agency (EPA) identification number for the Site is: CERCLIS - OR027734359. This is a time critical removal action.

The GASCO site is a former gasification plant and oil-tar distillation plant located at 7900 NW St. Helens RD Portland 97210 and is bounded by the Willamette River at River Mile 6 and State Highway 30

(St. Helens Road). The site is adjacent to the Wacker Siltronic and U.S. Army Corps of Engineers U.S. Mooring facilities. The site is located on township/Range/Sect: 1N , 1W , 12 and Latitude: 45.5774 deg. Longitude: -122.7563 deg. The site size is approximately 35 acres. See Figure 1.

There are no known historical landmarks or structures with historical significance identified at the Site.

Ownership and Operational History

The Site is currently owned by Northwest Natural Gas Company (NWNG), which is the assumed name of the Portland Gas and Coke Company (GASCO). It is currently used as a liquified natural gas plant. GASCO purchased the site in approximately 1910. At that time the site was larger, approximately 85 acres, than currently configured. GASCO built and operated an oil gasification plant on the site between 1913 and 1956. Between 1913 and 1923, only gas and lampblack briquettes were produced. In 1923 by-products refining began. After 1925, when tar refining operations began, the quantity of tar within the waste stream would have decreased, but waste tar in the effluent continued to occur as suspended material and emulsions from the secondary tar box. Prior to 1941, all wastewater effluent and tar stills from the gasification process and by-product refining was discharged to a stream channel leading from the production area to the Willamette River, or to low lying areas of the GASCO site. After 1941, wastewater effluent and tar stills were disposed of in settling ponds on the northern portion of the Site. When the plant was shut down in 1956 an estimated 30,000 cubic yards of tar waste had accumulated in the ponds. The southern portion of the site was sold to Victor Rosenfeld and H.A. Anderson, who sold the property to the City of Portland, Portland Development Commission in 1972. In 1978, the City of Portland sold the property to Wacker Siltronic Corporation, now known as "Siltronic". The tar ponds on the northern portion of the Site were buried under 10 feet of fill in 1973. Koppers Company leased an 8-acre portion of the GASCO site from NWNG in 1965 and built a coal-tar distillation plant. The Koppers plant shut down in 1973 and has only been used for the bulk transfer of creosote oil and coal tar pitch since 1977. Portions of the site are also used for liquefied natural gas storage by NW Natural and for bulk petroleum storage by a lease holder.

State Enforcement Actions

In December 1993, NWNG signed up for DEQ's Voluntary Cleanup Program. In August 1994, NWNG signed an agreement with DEQ to conduct a Remedial Investigation and Feasibility Study (RI/FS) at the site. An RI/FS workplan was submitted to DEQ in January 1995 and approved in August 1995. In March 2001, a source control evaluation was initiated. In 2003 an evaluation was performed to consider options for bank stabilization to limit the potential migration of contaminants in bank soil to the river. An updated upland RI is due to be submitted to DEQ in mid April 2004.

Regulatory and Enforcement History

See "State Enforcement Actions," above.

EPA Enforcement Actions

There are no current EPA enforcement actions for the GASCO site.

EPA listed the lower Willamette River and sources of hazardous substances to the river on the National Priorities List in December, 2000. The initial study area for the RI/FS is comprised of River Miles (RM) 3.2 to 9.5. The GASCO facility is included within the boundaries of the NPL site and NWNG was notified of its potential responsibility for response. NWNG is one of ten parties that signed an administrative order on consent for RI/FS activities with EPA in September, 2001.

A. Site Description

1. Site Investigations

Numerous Remedial Investigation and Risk Assessment activities have been completed at the site to date. During the first phase of the Remedial Investigation, widespread oil gasification and by-products refining waste contamination was identified in site soils, groundwater, and Willamette River sediments. Tars were identified to depths of 70 feet in the vicinity of the former tar waste disposal area. In the former plant site area, dense non-aqueous-phase liquids (DNAPLs) were identified at three distinct locations. Monitoring wells installed adjacent to the Willamette River detected elevated levels of benzene and naphthalene. Sediment samples were found to contain high concentrations of polynuclear aromatic hydrocarbons (PAHs) and pure tar waste was found to be in the river off of the bank of the Site. (See the table in Subsection 3 below for concentration levels of hazardous substances found in various media at the site.) Phase II of the RI was completed during the fall of 1998. Groundwater contamination was detected up to 100 feet below the surface along the riverbank. A significant zone of tar waste contamination extending from the site into the river was also confirmed. In March 2000, two cathodic protection wells that extended 400 feet into the basalt aquifer were abandoned. In August 2000, a waste recovery system was installed and soil sampling to support the upland risk assessment was completed. In March 2001, a source control evaluation was initiated which included off-shore sampling.

2. Physical Location

The Site is located in the Portland Basin, a broad structural depression of the Willamette Valley. Three main units are found beneath the site including (youngest to oldest): surficial fill, Willamette River alluvial deposits, and Columbia River basalt. A laterally extensive layer of silt with little to no clay content was found at elevations ranging from 25 to 30 feet above mean sea level (msl) on the west of the site (near St. Helen's Road) to 5 to 10 feet msl on the east of the site (near the Willamette River). Based on a detailed survey map for the GASCO site dated 1906 which identifies the pre-fill elevations of the site, the silt layer at this site is inferred to be at the top of the alluvial deposits. The GASCO 1906 survey map also depicts a former creek bed, which has been characterized as a drainage feature of the former Doane Lake that extends from the former lake south of the GASCO property, through the GASCO property north to the U.S. Moorings facility. Monitoring wells on the GASCO site placed within the former creek bed (monitoring wells MW-6 600 feet south of Moorings, and MW-11, 1,500 feet south) indicate the top of the silt layer is lower in elevation in the vicinity of the creek bed.

3. Site Characteristics

Wastewater containing tar stills and unusable by-products were discharged to the Willamette River, land-farmed on a portion of the site, or disposed of in settling ponds on-site. Lampblack briquettes and spent iron oxide waste were stored in large on-site waste piles. Time of disposal of the above materials on or

off-site was between 1913 and 1977. The following table summarizes maximum concentrations typical of each media.

Media Contamination Information (Taken from ODEQ Environmental Cleanup Site Information (ECSI) Database Site Summary Report - Details for Site ID 84)

Substance	Media	Concentration Level
BENZENE	Contaminated Groundwater	16 ppm
BENZENE	Sediment	22 ppm
BENZENE	Soil	360 ppm
CYANIDE (AS ION)	Groundwater	11 ppm
CYANIDE (AS ION)	Soil	50.7 ppm
NAPHTHALENE	Groundwater	30 ppm
NAPHTHALENE	Sediment	5,100 ppm
NAPHTHALENE	Soil	11,000 ppm
POLYAROMATIC HYDROCARBONS (PAH)	Groundwater	0.36 ppm
Total POLYAROMATIC HYDROCARBONS (PAH)	Sediment	26,408 ppm
Carcinogenic POLYAROMATIC HYDROCARBONS (PAH)	Sediment	5,048 ppm
POLYAROMATIC HYDROCARBONS (PAH)	Soil	3,156 ppm

Site groundwater occurs in three principle hydrologic zones including the unconfined surficial fill water bearing zone, the semi-confined alluvial sand water bearing zone, and the confined bedrock aquifers in the Columbia River basalts. A laterally extensive low permeability silt unit separates the surficial fill water bearing zone from the alluvial sand water bearing zone across a majority of the site.

4. Release or Threatened Release into the Environment of a Hazardous Substance, or Pollutant or Contaminant

The primary concern at this Site is the release and threat of release of CERCLA hazardous substances and pollutant or contaminants, including: tars, oil, creosote, phenols, cyanide, and associated contaminants, such as, polynuclear aromatic hydrocarbons (PAHs), and benzene. This removal is focused on hot spot removal of tar waste from the Willamette River adjacent to the GASCO site. The area of focus of this removal action is the bank and river bottom containing contaminated sediments with high levels of total PAHs (tPAHs) and visibly observable black tar waste, hereinafter referred to as the "tar body." Chemical concentrations detected within the tar body include tPAHs, up to 26,400 mg/kg, benzene up to 22 mg/kg, and naphthalene up to 5100 mg/kg. Certain samples of tPAHs detected are more than 1000 times the probable (ecological) effects concentrations (MacDonald, 2000). This area of pure tar waste and highly contaminated materials is the source of ongoing releases or potential threat of releases of contaminants to the Willamette River and downstream areas.

5. NPL Status

The GASCO site is located within the Portland Harbor Superfund Site and is being investigated as part of the Harbor-wide RI/FS. The site was listed on the National Priorities List on December 1, 2000.

6. Maps, Pictures, and other Graphic Representations

See attached figures.

B. Other Actions To Date

1. Previous Actions

No full-scale cleanup actions have been taken to clean up the site to date. See the above descriptions of past/ongoing site investigations.

2. Current Actions

There is a pilot scale NAPL (non-aqueous phase liquid) recovery system in the uplands area. Also, contaminated groundwater seeping into the liquified natural gas (LNG) containment basin is being treated and discharged to the Willamette under a state-issued NPDES discharge permit.

C. State and Local Authorities' Roles:

1. State and Local Actions to Date:

Concurrent with the in-water RI/FS investigation being conducted under EPA oversight, ODEQ is conducting source control investigations and actions on the upland portion of the facility. Northwest Natural Gas did not conduct additional site characterization requested of ODEQ over the last two years, but recently indicated its willingness to perform such work.

2. Potential for Continued State and Local Response:

ODEQ plans to continue to oversee source control efforts in the upland areas of the GASCO site at this time, including the oversight of a comprehensive, site-wide, upland RI/FS.

III. THREATS TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT, AND STATUTORY AND REGULATORY AUTHORITIES:

Conditions presently exist at the site which may present an imminent and substantial endangerment to public health or welfare or the environment. Conditions at the site meet the criteria for a removal action as stated in the National Contingency Plan (NCP), 40 CFR, Section 300.415 as follows:

A. Threats to Public Health or Welfare

Actual or potential exposure to hazardous substances or pollutants or contaminants by nearby human populations or the food chain

The tar body is open and exposed in the Willamette River and on the river bank, more so at low water levels. Trespassers on this and adjacent industrial property, transients camping nearby, recreational boaters, and workers all may be exposed by contact to site contaminants, especially during low water when more of the tar is exposed. Although the risk is unquantified, uptake of site contaminants by aquatic biota may become a part of the food chain.

Hazardous substances or pollutants or contaminants in drums, barrels, tanks, or other bulk storage containers, that may pose a threat of a release. CERCLA hazardous substances, pollutants, and contaminants already are present in the riverbank, on the river bottom, and in river sediments.

High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface, that may migrate. Pure tar waste is present on the bank and river bottom, significantly high levels of PAHs and benzene are dissolving off the tar body. The tar body present in the Willamette River is prone to erosion during flood events. High level sediments near the tar body may be elevated due to erosion from the tar body itself. "Tar balls" that have been noted on nearby beach areas downstream of the main tar body area.

Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released. Willamette River stage and current fluctuation can accelerate erosion of the high PAH material in the river.

B. Threats to the Environment

The contamination at the Site creates an imminent and substantial endangerment to the environment in part through the actual or potential exposure of the river water, river sediment, surface soils and standing surface water to hazardous substances and pollutants or contaminants.

Actual or potential exposure to hazardous substances or pollutants or contaminants by nearby animals or the food chain. Actual or potential exposure to the tar body and associated contaminants exists for fish, shellfish, other aquatic biota, such as benthic organisms, and wildlife, such as piscivorous birds. Actual or potential exposure to aquatic species, although not quantified, may become part of the ecological food chain as wildlife consume such species. PAH contamination exists as pure tar in the Willamette River and on the riverbank. Levels throughout the "tar body" and in some surrounding sediment exceed 1000 times the probable effects concentrations (PEC) and in all areas are above 100 times the PEC (MacDonald, et al, 2000). Contact with the tar body could pose a risk to waterfowl that may use rest or feed in the area. Other animals may also be exposed if using this water for drinking. Uptake to aquatic species is likely but not quantified. The Willamette River is a transitory area for a number of ESA listed fish species, including 5 salmonid species listed as threatened under the Endangered Species Act. Coastal cutthroat trout, steelhead, and chum and chinook salmon are also all considered sensitive species by ODFW. Pacific lamprey and river lamprey are recognized as species of concern at the federal level (USFWS). Western toad, Cope's giant salamander, tailed frog, northern red-legged frog, northwestern pond turtle, and painted turtle are all considered sensitive species by ODFW. In addition, northwestern pond turtle, tailed frog, and red-legged frog are listed as species of concern by USFWS. Aleutian Canada geese and the American peregrine falcon are protected as state endangered species (ODFW). Nine wetland plants that occur in the Willamette Valley and may occur in the Portland Harbor Superfund Site

are all species of concern by USFW.

Hazardous substances or pollutants or contaminants in drums, barrels, tanks, or other bulk storage containers, that may pose a threat of a release. Release has already occurred as pure tar exists in the river and on the riverbank.

High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface, that may migrate. Based on site visits performed by EPA and DEQ personnel, tar and associated contaminants from historical releases has and continues to erode and be deposited on nearby beaches posing an actual or potential threat of exposure and environmental and human health threat.

Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released. Willamette River stage and current fluctuation can accelerate erosion of the high PAH material in the river.

IV. ENDANGERMENT DETERMINATION

Actual and threatened releases of hazardous substances, pollutants and contaminants from this site may present an imminent and substantial endangerment to public health, or welfare, or the environment.

V. PROPOSED ACTIONS AND ESTIMATED COSTS

Proposed Actions

The objectives of the actions outlined below are to: (1) removal of tar containing high concentrations of total polycyclic aromatic hydrocarbons (tPAH) in river sediments and the riverbank adjacent to the Gasco facility (the "Tar Body") (principle threat material), (2) achieve reductions in potential exposures to human health and the environment; and reduce the actual or potential migration of such high level contamination downstream. Additionally, an objective of the actions outlined below is to facilitate further characterization work on upland sources of contamination to the river. These proposed actions are based on the information known to date regarding the conditions at the site. As additional information is gathered, further actions may be necessary.

1. Proposed Action Description

The following Removal options were evaluated:

1. Removal of the tar from the riverbank, Willamette River bottom sediment in the areas of highest concentration (tar body), off-site disposal, and placement of a thin layer cover on the dredged surface. (See estimated location in Figure 2)
2. Capping of tar body.
3. No action.

Alternative #1 was selected, as this was determined to be the most protective, while still being cost effective in removing riverbank and sediment contamination on site. Alternative #2 and #3 do not fully meet the objectives of the NCP, CERCLA, or CWA 404 (b) (1) criteria regarding minimization of short and long-term impact. Alternative #2 would be protective of human health and the environment by limiting the spread of contamination by reducing the erosion of high PAH material, however, would still leave a substantial source which could be mobilized during flood events, no matter how durable the cap design. Placement of a cap, which would isolate this material for some period of time, is also less preferable under EPA guidance and 404(b)(1) analysis since there is an alternative (#1) which is a hot spot removal of principal threat material which reduces the overall amount of source material in the river. Alternative #2 is also the most likely alternative to preclude future actions that will likely be necessary as

part of remedial action in the Harbor. Alternative #3 was not selected as this did not address the threats to human health and the environment whatsoever, and left hazardous substances in place. This alternative was not protective because it did not provide for protection of the fishing community, trespassers/transients, or the environment.

2. Contribution to Remedial Performance

The GASCO site is located within the "Initial Study Area" (ISA) of the Portland Harbor Superfund Site and is being investigated as part of the in-water Harbor-wide RI/FS. The ISA is from approximately River Mile 3.5 to 9.2 and includes portions of the GASCO site that have or could impact the river sediments. The Portland Harbor Superfund site was listed on the National Priorities List on December 1, 2000. A Record of Decision is expected some years after the completion of this time critical removal action (TCRA). Due to the number of years remaining to outline the remedy at this site, this TCRA is designed to immediately remove a known hotspot of pure tar waste and one likely source of the highest tPAH-contaminated material, reduce the risk of further migration of contaminants to adjacent sites, and reduce exposure to the receptors described above to high concentration tPAH material that will require removal under any remedial alternative. This action, at a minimum, is also necessary to reduce the exposure and migration of the highest concentrations of site contaminants from the GASCO site before remedial work can be undertaken.

3. Description of Alternative Technologies

Use of alternative technologies will be explored to some degree in the Removal Action Work Plan, if they may be implemented consistent with the scope of this time critical removal action.

4. EE/CA

This applies only to non-time critical responses. This is a time critical removal action.

5. Applicable or Relevant and Appropriate Requirements (ARARs)

The proposed removal action will attain or exceed all ARARs to the extent practicable. Two factors will be applied to determine whether the identification and attainment of ARARs is practicable: (1) the exigencies of the situation; and (2) the scope of the removal action to be taken. See attached listing of likely ARARs.

6. Project Schedule

The selected removal action is estimated to require several months to complete. Removal may commence upon signature of this Action Memorandum.

IV. EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN

Delay or disapproval of the proposed action will allow releases of CERCLA hazardous substances into the environment to continue and increase the risk of exposure to nearby residents, tribal members, trespassers/transients and ecological receptors. Failure to act will increase/prolong the threats to human health and the environment described above.

VII. OUTSTANDING POLICY ISSUES - NONE

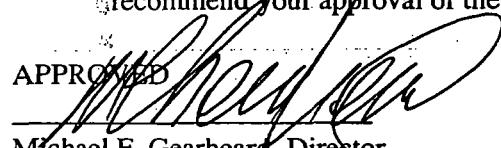
VIII. ENFORCEMENT

EPA has identified Northwest Natural Gas Company as potentially responsible party at the Site.

IX. RECOMMENDATION

Conditions at the site meet the NCP Section 300.415(b)(2) criteria for a removal and I recommend your approval of the proposed removal action.

APPROVED



Michael F. Gearheard, Director
Office of Environmental Cleanup
Date: 11/20/04

DISAPPROVED

Michael F. Gearheard, Director
Office of Environmental Cleanup
Date: _____

REFERENCES

1. ODEQ Environmental Cleanup Site Information (ECSI) Database Site Summary Report, Site 084.
2. Phase I Remedial Investigation Report, Northwest Natural-GASCO facility, Hahn and Associates, Inc., 1998.
3. Preliminary Analysis of Soil contamination Data, Decision Management Associates, 1998.
4. Supplemental Soil Quality Investigation Report, NW Natural GASCO facility, Hahn and Associates, Inc. 2001.
5. North Doane's Lake Site Characterization Work Plan, Camp Dresser & McKee, Inc., June 1987
6. MacDonald, D.D., C.G. Ingersoll, and T.A. Berger. 2000 Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Arch. Environ. Contam. Toxicol. 39:20-31.

Attachment 1; ARARs

Regulation	Citation	Criterion/Standard
Federal ARARs		
Clean Water Act, Ambient Water Quality Criteria	33 USC 1314 40 CFR Part 131	Provides minimum standards for water quality programs established by states. Two kinds of water quality criteria exist: one for protection of human health, and one for protection of aquatic life.
Water Pollution Control Act, Total Maximum Daily Loads	33 USC 1313 (d) 40 CFR Part 130	Provides for development of TMDLs.
Migratory Bird Treaty Act	16 U.S.C. Section 703	Provides protection to migrating birds that may utilize nearshore areas.
Resource Conservation and Recovery Act	42 USC 6901 et seq 40 CFR 260, 261, 262, 263, 265	Establishes management standards for solid and hazardous waste.
State /Local ARARs		
State Water Quality Criteria	ORS 468.735, 720, 990, 992 OAR 340-41-0442 and 0445	Provides Willamette Basin beneficial uses and water quality standards.
Total Maximum Daily Loads	ORS 468.020, 030, 468(B).030, 035, 110 OAR 340-042-0025	Provides for development of TMDLs.
Solid Waste Management Regulations	ORS 459.005-418 OAR 340-93	General provisions for storing, collecting, transporting, treating and disposing of solid waste.
Hazardous Waste Regulations	ORS 466.020, 075, 105, 195 ORS 340-100	General provisions for distinguishing between solid waste and hazardous waste.
Oregon Hazardous Substance Remedial Action Rules	ORS 465.200-465.420, 465.900, 466.995 OAR 430-122-010 et seq.	Establishes cleanup authority and objectives; regulations establish cleanup standards and procedures to be used to implement the cleanup law.

Regulation	Citation	Criterion/Standard
Federal ARARs		
Fish and Wildlife Coordination Act Requirements	16 USC 662, 663 40 CFR 6.302 (g)	Requires consultation with appropriate agencies to protect fish and wildlife when federal actions may alter waterways. Must develop measures to prevent and mitigate potential loss to the maximum extent possible.
National Historic Preservation Act	16 USC 470 <u>et seq.</u> 36 CFR Part 800	Establishes requirements for the recovery and preservation of historical and archaeological data. Also requires measures to minimize harm to historic resources.
Native American Graves Protection and Reparation Act	25 USC 3001-3013 43 CFR 10	Prevents willful removal of cairn, burial, human remains, funerary object, sacred object or object of cultural patrimony. Provides for reinternment of human remains or funerary objects under the supervision of the appropriate Indian tribe.
Archaeological Resources Protection Act	16 USC 470aa 43 CFR 7	Archaeological sites on public lands are under the stewardship of the people of the United States and are to be protected and managed in perpetuity.
Endangered Species Act	16 USC 1531 <u>et seq.</u>	This act requires action to avoid jeopardizing the continued existence of listed endangered or threatened species or destruction or adverse modification of critical habitat.
Executive Order for Wetlands Protection	Executive Order 11990 (1977) 40 CFR 6.302 (a) 40 CFR Part 6, App.	Requires measures to avoid adversely impacting wetlands whenever possible, minimize wetland destruction, and preserve the value of wetlands.

Regulation	Citation	Criterion/Standard
Executive Order for Floodplain Management - Portland Nat'l Flood Insurance Program in part implements EO	A Exec. Order 11988 (1977) 40 CFR Part 6, App. A 40 CFR 6.302 (b); Ch. 24.50.060(D) & (F)(8)	Requires measures to reduce the risk of flood loss, minimize impact of floods, and restore and preserve the natural and beneficial values of Floodplain. Requires no rise in base flood level and balance cut and fill for work in floodway
Clean Water Act Section 404 Requirements	33 USC 1344 33 CFR Parts 320-323 40 CFR 230	For discharge of dredged or fill material into water bodies or wetlands, there must be no practical alternative with less adverse impact on ecosystem; discharge cannot cause or contribute to violation of state water quality standard or toxic effluent standard or jeopardize threatened and endangered species; discharge cannot significantly degrade waters of U.S.; must take practicable steps to minimize and mitigate adverse impacts; must evaluate impacts on flood level, flood velocity, and flood storage capacity.
Rivers and Harbors Act	33 USC 403 33 CFR 320-330	Regulates activity that may obstruct or alter a navigable waterway. Activities controlled include construction of piers and berms, installation of piling, or sheet pile walls.
State ARARs State Removal Fill Operations	ORS 274.040, 0.43,.922, .944 OAR 141-	Regulates all activities associated with removal and fill operations in state waters.

Regulation	Citation	Criterion/Standard
Certification of Compliance with Water Quality Requirements and Standards	85-001 et seq ORS 468b.035 OAR 340-048-	Outlines review process between state and federal agencies regarding compliance with water quality requirements and standards for projects that discharge into navigable waters or impact water quality (only substantive portions apply).
Lower Willamette River Management Plan	ORS 273.045 OAR 141-0105	Regulates leasing, license, and permit activities in the lower 18 miles of the Willamette River, which includes Terminal 4. The plan describes allowable activities and conditions for waterway management areas based on public trust values (fisheries, recreation, or navigation). (only substantive portions apply)
Willamette Basin Program	ORS 536.300, 340 OAR 690-52	Requires development of plans to maintain stream flow, promote in-stream uses and values, and meet public needs.
Indian Graves and Protected Objects	ORS 97.740-760	Prevents willful removal of cairn, burial, human remains, funerary object, sacred object or object of cultural patrimony. Provides for reinternment of human remains or funerary objects under the supervision of the appropriate Indian tribe.
Archaeological Objects and Sites	ORS 358.905-955	Archaeological sites on public lands are under the stewardship of the people of Oregon and are to be protected and managed in perpetuity by the state.
Permit and Condition For Excavation or Removal of Archaeological or Historical Material on Public Lands	ORS 390.235 OAR 736-051-0080	Provides for permits and conditions for excavation or removal of archaeological or historical materials (only substantive portions apply).

Figure 1

Portland Harbor Upland Cleanup Sites

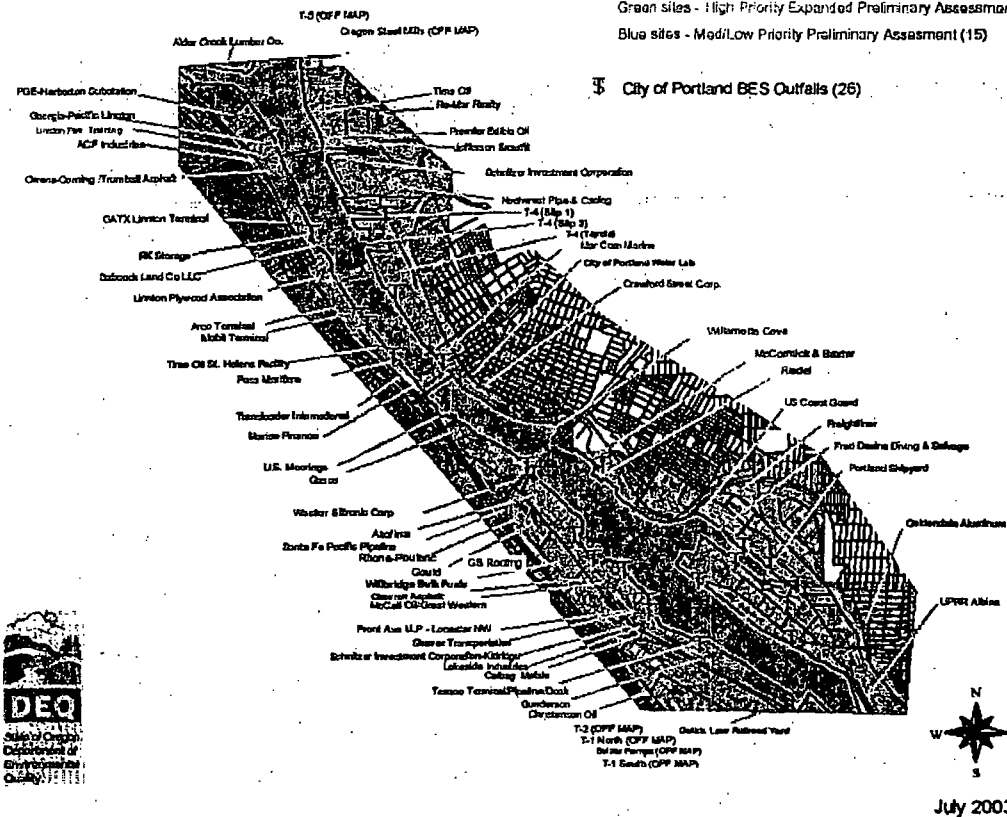
Black sites - Not a source of continuing contamination to the river (9)

Purple sites - Cleanup Underway (4)

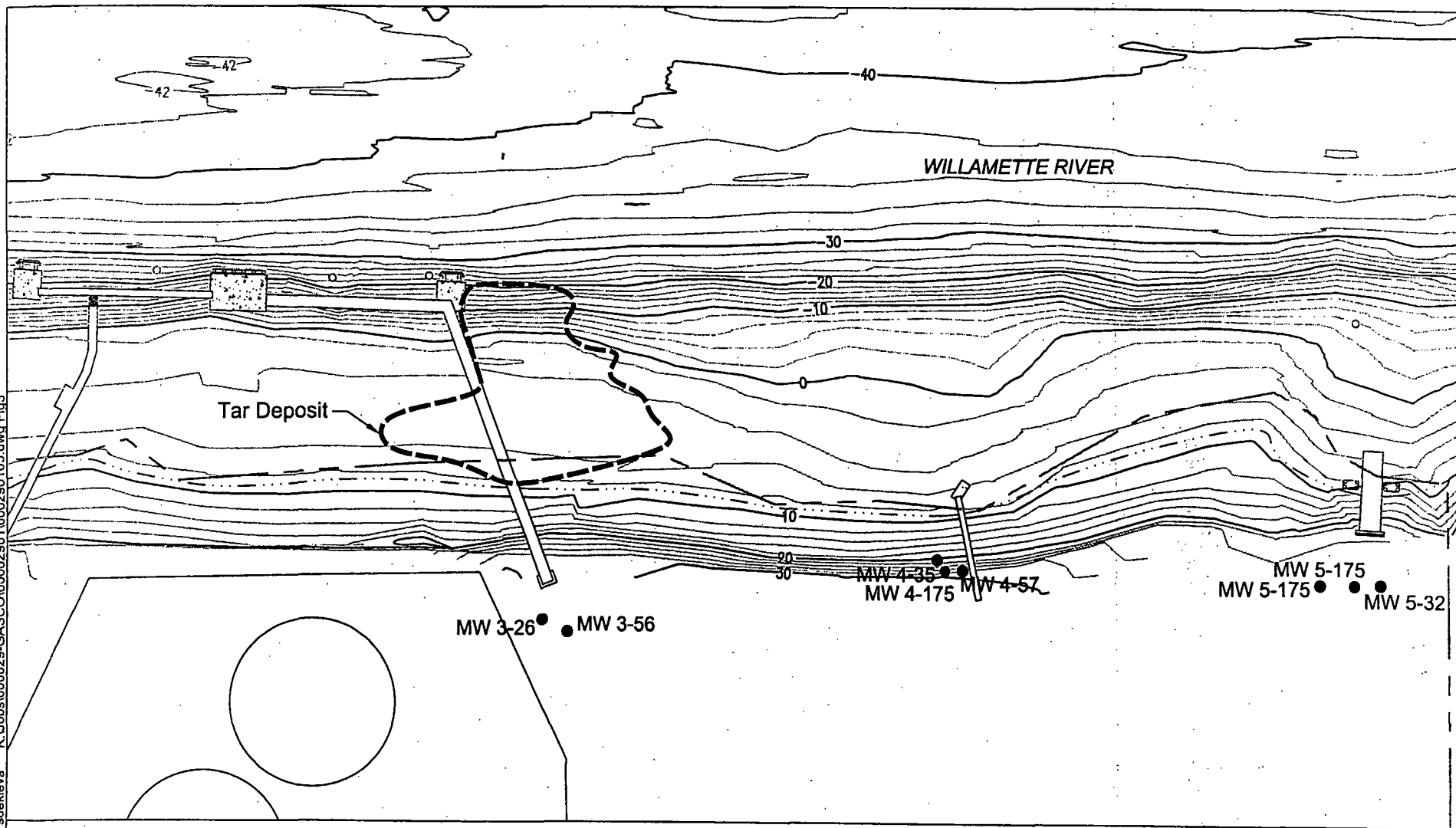
Red sites - High Priority Remedial Investigation (24)

Green sites - High Priority Expanded Preliminary Assessment (11)

Blue sites - Med/Low Priority Preliminary Assessment (15)



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Notes:

1. Bathymetric contour and dock survey by INCA Engineers Inc., August 1999.
2. Upland data from Hahn & Associates, Inc., September 1998.
3. Horizontal Datum: Oregon State Plane North NAD83 (feet).
4. Vertical Datum: City of Portland (feet).



APPENDIX B

STATEMENT OF WORK

GASCO REMOVAL ACTION PORTLAND HARBOR SUPERFUND SITE PORTLAND, OREGON

I. PURPOSE

The purpose of this Statement of Work (SOW) is to implement the Administrative Order on Consent for Removal Action (AOC).

The Work to be completed under this SOW shall include, but not be limited to, preparation, delivery, and implementation of the following:

1. Removal Action Work Plan (draft and final);
2. Removal Action Design;
3. Implementation of Removal Action;
4. Removal Action Completion Report (draft and final);
5. Monitoring and Reporting Plan; and
6. Community Involvement Activities.

Removal activities shall be completed in accordance with Table 1 of this SOW. The removal action shall be implemented during the summer 2004 work window, or as otherwise approved by the Environmental Protection Agency (EPA).

The Respondent will coordinate monthly meetings and/or teleconferences with EPA, Oregon Department of Environmental Quality (DEQ), the Tribes, and the Trustees to discuss the status of work described in this SOW and the approved Removal Action Work Plan (RAWP). Monthly meetings may be cancelled or postponed upon agreement of EPA.

II. WORK TO BE PERFORMED BY RESPONDENT

Work to be completed under this SOW shall also include activities necessary to achieve the criteria and performance standards contained in the SOW, Action Memorandum, Removal Action work plan, or any other report, or deliverable approved under the AOC and this SOW.

The primary removal action objectives for this project are:

1. Removal of tar containing high concentrations of total polycyclic aromatic hydrocarbons (tPAH) in river sediments and the riverbank adjacent to the Gasco facility (the "Tar Body"). EPA has determined that the Tar Body represents an imminent and substantial threat to human health and the environment, as specified by the April 28, 2004 Action Memorandum. Respondent neither admits nor denies this determination;
2. Removal of the Tar Body to a depth that leaves a surface of lesser tPAH concentration upon which thin barrier placement or a pilot cap will be evaluated.
3. If technically appropriate based upon the design characterization study, field observations or other data, creation of a bathymetric "low spot" after removal has occurred such that potential seepage of material may be captured in a localized area for future response;
4. Prevention of contaminant migration of tar from the Tar Body to adjacent sites through early removal of the Tar Body;
5. Monitoring to determine if seepage from upland sources occurs that recontaminates the removal action area and evaluation to determine if additional removal is necessary, as described in an approved Monitoring and Reporting plan;
6. Demonstrate compliance with ARARs, to the extent practicable, including, but not limited to: the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), Clean Water Act Section 404 (404), Endangered Species Act (ESA), and other Applicable or Relevant and Appropriate Requirements (ARARs) specified in the Action Memorandum and RAWP; and
7. To the extent practicable, contribute to the efficient performance of any anticipated long-term remedial action with respect to the release of hazardous substances from the facility.

RAOs will be further specified in the removal action work plan for EPA review and approval.

Respondent shall complete the following tasks:

1. Removal Action Work Plan

Respondent shall submit a Work Plan that will include a summary of existing information, a project work plan, a Sampling and Analysis Plan (SAP), transportation/disposal plan (TDP), Health and Safety Plan (HASP) and other information set forth below. The TDP, 404 and Biological Assessment (BA) will be incorporated into the design documents as described below.

- Procedures for addressing and protecting cultural resources in the Removal Action Area;
- Identification of additional Removal Action Objectives and refinement of those stated above;
- SAP (and associated HASP) describing data collection activities needed to develop the removal design;
- Process for evaluation of floodway and floodplain impacts to ensure that the Removal Action achieves no unacceptable increase in base flood elevation, and if appropriate, balance cut and fill for any encroachment into the river;
- Removal action project plan describing the sequence of activities; and
- Schedule for completion of all project tasks including the Removal Action.

Draft and Final versions of the Removal Action Work Plan shall be submitted to EPA for review and approval in accordance with the schedule set forth in Table 1 of this SOW, or as otherwise approved by EPA.

2. Design Characterization Sampling

The Respondent shall conduct sampling as described in the Work Plan SAP and approved by EPA to collect information sufficient to design the removal action. The sampling is expected to include, but is not necessarily limited to:

- Collection of sediment cores or probes from in and near the Tar Body for physical characterization to delimit the extent of the Tar Body
- Select chemical analysis of samples in those sediment cores or probes, particularly at the bottom of the cores/probes to determine the depth of the Tar Body

The parties acknowledge that Respondent is conducting additional characterization sampling regarding upland sources of contamination under DEQ's oversight during 2004. Any useful information from such characterization work available under the schedule attached to this SOW will be considered for purposes of this removal action.

3. Project Design Documents

A. Concept Design

Information from the design characterization sampling will be used by the Respondent to develop a concept level design. That report will include:

- Presentation of removal design options, evaluation of those options, and a recommended design for implementation (a streamlined equivalent to a 30% design).
- Presentation of all sampling results, quality assurance reviews, and other data evaluations that may be conducted to support the alternative evaluation and recommended alternative development.
- For the recommended alternative:
 - TDP, (as described below), including procedures for coordinating with EPA regarding compliance with EPA's Off-Site Rule, as applicable;
 - design dredge or excavation depths and overcut allowances, dredged or excavated material volumes, and dredging or excavation techniques;
 - Preliminary draft Biological Assessment for the Removal Action (as described below);
 - Analysis of measures (as described below) required to avoid or minimize adverse impacts on the aquatic environment from the Removal Action and, if appropriate, mitigation for unavoidable impacts in accordance with Section 404(b)(1) of the CWA, including, but not limited to control of any NAPL (non-aqueous phase liquid) that may be released during the removal;
 - Removal action project plan describing the sequence of activities;
 - Schedule of activities for completion of the Removal Action, including inspections, meetings, and documents referenced in this task;
 - Removal action HASP that is designed to protect personnel from physical, chemical and other potential hazards posed by this Removal Action;
 - Construction quality assurance plan (CQAP) (as described below) and statement of qualifications (for the construction contractor). The CQAP will describe in detail the methods for direct measurements to be made during construction to ensure RAOs and performance standards will be met;
 - Removal action environmental protection plan including steps to be taken for reducing negative or adverse effects on the environment and community (if any) during the construction phase(s);

- Access and easement requirements, and substantive requirements of permits;
- Operation and Maintenance Plan;
- An outline of the monitoring and reporting plan; and
- Procedures for processing design changes and securing EPA review and approval of such changes to ensure changes are consistent with the objectives of this Removal Action; and
- If necessary and to the extent practicable, provision for post-removal site control to ensure the effectiveness and integrity of the removal action after completion of the on-site removal action.

Health and Safety Plan. The HASP shall follow EPA guidance and all OSHA requirements as outlined in 29 C.F.R. 1910 and 1926. Respondent may utilize existing HASP project documents or other company/contractor HASPs provided that Respondent demonstrates the HASP has been modified, as necessary, or otherwise sufficiently addresses the activities covered by this SOW.

Biological Assessment (BA) Memorandum In order to identify the presence of threatened, endangered, proposed or candidate species, or their habitat, within the vicinity of the Removal Action Area, Respondent will prepare, for EPA approval, a draft BA to support compliance with the substantive requirements of the Endangered Species Act (ESA). The draft BA will characterize baseline conditions of existing habitat; address potential project impacts that the Removal Action may have on these species, their habitat, and their food stocks; and describe best management practices and conservation measures designed to avoid or minimize any adverse impacts. EPA, with the support of Respondent, will consult with the appropriate ESA agencies before and during implementation of the removal action on the proposed removal action to ensure that the substantive requirements of the ESA are met.

Clean Water Action Analysis: Respondent shall demonstrate through project design documents compliance with the substantive requirements of Section 404(b) (1) of the CWA to the extent practicable. The Removal Action Work Plan shall document the information gathered regarding practicability and cost, long- and short-term impacts from all proposed alternatives, minimization of adverse effects, and an analysis of the need for any mitigation.

Transportation and Disposal Plan: The Respondent will develop a Transportation and Disposal Plan (TDP) for any material that is to be removed from the site for EPA review and approval. The TDP will describe details of the disposal of waste materials, including

identification of an appropriate landfill, if applicable, and the source of any imported materials. The TDP shall also include information on sediment transloading (from water transport to land transport, barge, etc.), stockpiling, dewatering, and overland transport. The TDP should also include precautions that will be used to safely transport and dispose of the material, and describe contingencies for spills that might occur.

Construction Quality Assurance Plan. The CQAP shall detail the remediation verification method and approach to quality assurance during construction activities in the project area, including compliance with ARARs, to the extent practicable. The Plan will describe the methods used to measure compliance with measurement quality objectives (such as performance and method requirements), including target dredge or excavation depths, if appropriate. The Plan will include, as an attachment, a Draft Removal Action Sampling and Analysis Plan which shall include a field sampling plan and a QAPP. If the selected alternative includes capping, performance monitoring will include characterization of in-place capping materials (e.g., coverage and thickness). Performance monitoring will be performed to confirm that dredged or excavated material is properly staged, dewatered, and transported to a suitable disposal site; and that field construction activities are properly sequenced.

Draft Water Quality Monitoring Plan and its associated Quality Assurance Project Plan and HASP. The plan shall detail water quality monitoring to evaluate performance relative to: (1) water quality standards as defined by substantive requirements of CWA Section 401 water quality certification (for compliance with the requirements in CWA Section 404(b)(1) guidelines) and/or (2) any allowed temporary exceedances of water quality standards. The plan shall include monitoring during any capping and dredging operations and where return-water from barges or de-watering (as appropriate) may affect the water column. The plan shall describe the specific water quality monitoring requirements, including a schedule; sampling locations; sampling intervals; sampling equipment and parameters; analytical methods; key contacts; reporting requirements (including daily reports); daily contacts for notifications of any exceedances; result summaries; and draft and final Water Quality Monitoring reports.

B. Final Design

Respondent shall prepare a final design document, consistent with the EPA approved and selected removal alternative, including construction plans and specifications, to implement the Removal Action and shall

demonstrate that the Removal Action design meets all objectives of the Action Memorandum and RAWP. The final design shall include descriptions of the analyses conducted to select the design approach, including a summary and detailed justification of design assumptions and verification that design will meet performance standards. The final design package shall also include final versions of the concept design required components.

5. Implementation of Removal Action

As described in Table 1, Respondent shall provide notification to EPA thirty (30) days prior to initiation of construction fieldwork to allow EPA to coordinate field oversight activities.

Respondent shall complete the sediment Removal Action in accordance with the approved Removal Action Work Plan and Project Design Documents. The following activities shall be completed in constructing the Removal Action.

EPA and Respondent shall participate in a preconstruction meeting to:

- Review methods for documenting and reporting data, and compliance with specifications and plans including methods for processing design changes and securing EPA review and approval of such changes as necessary;
- Review methods for distributing and storing documents and reports;
- Review work area security and safety protocols, as appropriate;
- Demonstrate that construction management is in place, and discuss any appropriate modifications of the CQAP to ensure that project specific considerations are addressed;
- Discuss methods for direct measurement, including confirmation sampling of construction work to be used to ensure performance standards are met;
- If requested, conduct a Removal Action Area tour with EPA in the project area to verify that the design criteria, plans, and specifications

are understood and to review material and equipment storage locations, as appropriate.

Pursuant to the CQAP, weekly reports shall be prepared and submitted (electronically) to EPA for review during implementation of the Removal Action. Weekly reports shall include work performed, problems encountered and solutions proposed, water quality monitoring results, and work to be performed during the following week. If applicable, Respondent shall inform EPA of the off-Site disposal facility proposed to receive any debris or dredged/excavated materials from Removal Action Area.

Within seven (7) days after Respondent makes a preliminary determination that construction is complete, Respondent shall orally notify EPA for the purposes of scheduling a final inspection and/or meeting. Within fourteen (14) days after the final inspection and/or meeting, Respondent shall send a letter to EPA stating that construction is complete and responding to any outstanding issues that were raised by EPA during the final inspection/meeting.

6. Removal Action Completion Report

Within 60 days after completion of the construction phase of the Removal Action, Respondent shall submit for EPA review and approval a Removal Action Completion Report. This report shall contain a description of the Work described in the Removal Action Work Plan and the Work that was actually performed. In the report, a registered professional engineer and Respondent shall state that the Removal Action has been constructed in accordance with the design and specifications. The report shall provide as-built drawings, signed and stamped by a professional engineer, showing the area and depth of the location remediated. The final report shall include information on types of materials removed off-Site, a listing of the ultimate destination(s) of those materials, a presentation of the analytical results of all sampling and analyses performed (including a map showing the locations of any confirmatory samples), and accompanying appendices containing all relevant documentation generated during the Removal Action (e.g. manifests and permits). All analytical data collected during project implementation shall be provided electronically to EPA. The final Performance Monitoring and Water Quality Monitoring report may be submitted as an appendix to the Removal Action Completion Report. This Removal Action Completion Report shall contain a description of any institutional controls that are in place, or engineering controls that are necessary to sustain the integrity

of the Removal Action, along with copies of any agreements or other documents used to establish and implement such controls.

The final report shall also include the following certification signed by a person who supervised or directed the preparation of that report:

“Under penalty of perjury under the laws of the United States, I certify that to the best of my knowledge, after appropriate inquiries of all relevant persons involved in the preparation of the report, the information submitted is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.”

7. Monitoring and Reporting Plan

Respondent shall prepare a Monitoring and Reporting Plan for Removal Action Area. The Monitoring and Reporting Plan shall be consistent with the design Operations and Maintenance Plan and include inspections and analyses to monitor the Removal Action implemented in the Removal Action Area.

The Monitoring and Reporting Plan shall describe monitoring objectives outlined in the RAOs, an overview of the monitoring approach, design of the monitoring program (e.g., sampling strategy, station locations and replication, field sampling methods, laboratory methods), data analysis and interpretation, reporting requirements, and a schedule. The Plan shall include, as appropriate, visual inspection, bathymetric survey, sediment deposition monitoring, chemical monitoring, and sediment samples in capped areas and non-capped areas (including excavated areas) to monitor for recontamination. Data from monitoring shall be assembled into reports and submitted to EPA in accordance with the schedule set forth in the Monitoring and Reporting Plan. Based on monitoring results, EPA shall determine if future response actions are needed to achieve the cleanup objectives.

8. Community Involvement Activities

If requested by EPA, Respondent shall provide information supporting EPA's community involvement program related to the Work performed pursuant to this Order, and shall participate in public meetings which may be held or sponsored by EPA to explain activities at the Removal Action Area or concerning Work performed pursuant to this Order. EPA will coordinate its community outreach efforts with DEQ.

III. CONTENT OF SUPPORTING PLANS

1. Sampling and Analysis Plans

Respondent shall develop project-specific design characterization SAP comprised of a FSP and a project-specific QAPP for sample analysis and data handling for samples collected at the Removal Action Area. The design characterization SAP shall be based upon the AOC, SOW and EPA guidance.

The FSP will define in detail the sampling and data-gathering methods that will be used on the design characterization. It will include sampling objectives, a detailed description of sampling activities, sample locations, sample analysis, sampling equipment and procedures, sampling schedule, station positioning, and sample handling (e.g., sample containers and labels, sample preservation). The SAP will be prepared in accordance with "Methods for Collection, Storage and Manipulation of Sediments for Chemical and Toxicological Analyses: Technical Manual" (EPA/823/B-01-002, October 2001). The content of the SAP shall include the type of information described in EPA's Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA (EPA/540/G-89-004).

The QAPP will describe the quality assurance and quality control protocols necessary to achieve required data quality objectives. The QAPP will be prepared in accordance with "EPA Requirements for Quality Assurance Project Plans (QA/R-5)" (EPA/240/B-01/003, March 2001) and "Guidance on Quality Assurance Project Plans (QA/G-5)" (EPA/600/R-98/018, February 1998). The QAPP will address sampling procedures, sample custody, analytical procedures, and data reduction, validation, reporting, and personnel qualifications. The laboratory performing the work must have and follow an approved Quality Assurance (QA) program, which complies with "EPA Requirements for Quality Management Plans (QA/R-2)" (EPA/240/B-01-002, March 2001) or equivalent documentation as determined by EPA. If a laboratory not in the EPA Contract Laboratory Program (CLP) is selected, the QAPP shall be consistent with the requirements of the CLP for laboratories proposed outside the CLP. Respondent will provide assurances that EPA has access to laboratory personnel, equipment and records for sample collection, transportation, and analysis.

All sampling and analyses performed pursuant to this Order shall conform to EPA direction, approval, and guidance regarding sampling, quality assurance/quality control (QA/QC), data validation, and chain-of-custody procedures. Respondent shall ensure that the laboratory used to perform the analyses participates in a QA/QC program that complies with the appropriate EPA guidance.

Upon request by EPA, Respondent shall have such a laboratory analyze samples submitted by EPA for quality-assurance monitoring. Respondent agrees that EPA personnel may audit any laboratory that performs analytical work under this SOW. Prior to awarding any work to an analytical laboratory, Respondent will inform the laboratory that an audit may be performed, and that the laboratory agrees to coordinate with EPA prior to performing analyses.

Respondent shall provide to EPA the quality assurance/quality control procedures followed by all sampling teams and laboratories performing data collection and/or analysis. Upon request by EPA, Respondent shall allow EPA or its authorized representatives to take split and/or duplicate samples. Respondent shall notify EPA not less than 14 days in advance of any sample collection activity, unless shorter notice is agreed to by EPA. EPA shall have the right to take any additional samples that EPA deems necessary. Upon request, EPA shall allow Respondent to take split or duplicate samples of any samples it takes as part of its oversight of Respondent's implementation of the Work.

All analytical data collected under this SOW shall be provided electronically to EPA.

2. Health and Safety Plan

The HASP(s) ensures protection of health and safety during the performance of work under the AOC and this SOW. HASPs shall be prepared in accordance with EPA's Standard Operating Safety Guide (PUB 9285.1-03, PB 92-963414, June 1992). In addition, the plan shall comply with all currently applicable Occupational Safety and Health Administration ("OSHA") regulations found at 29 C.F.R. Part 1910. Respondent shall incorporate all changes to the plan recommended by EPA and shall implement the plan during the Removal Action.

3. Construction Quality Assurance Plan

The CQAP describes the project-specific components of the performance methods and quality assurance program to ensure that the completed project meets or exceeds all design criteria, plans, and specifications. The draft Plan shall be submitted with the Prefinal design and the Final Plan shall be submitted with the Final Design. The Final Plan shall be submitted prior to the start of construction in accordance with the approved construction schedule. The Plan shall provide requirements for the following elements:

- Responsibilities and authorities of all organization and key personnel involved in the Removal Action construction, including EPA and other agencies.
- Qualifications of the Construction Quality Assurance (CQA) Officer. Establish the minimum training and experience of the CQA Officer and supporting inspection personnel.
- Inspection and verification activities. Establish the observations and tests that will be required to monitor the construction and/or installation of the components of the Removal Action. The plan shall include the scope and frequency of each type of inspection to be conducted. Inspections shall be required to verify compliance with environmental requirements and ensure compliance with all health and safety procedures.
- Performance standards and methods. Describe all performance standards and methods necessary to implement the removal construction. Performance monitoring requirements shall be designed to demonstrate that best management practices have been implemented during dredging operations, dredged or excavated material transportation, and cap placement.
- Sampling activities. Describe quality assurance activities associated with sampling and monitoring activities or refer to information described in the Water Quality Monitoring and Performance Monitoring Plans as described under Project Design Documents, above.
- Documentation. Establish the reporting requirements for construction quality assurance activities. This shall include such items as daily and weekly summary reports, inspection data sheets, problem identification and corrective measures reports, design

acceptance reports, and final documentation. A description of the provisions for final storage of all records consistent with the requirements of the AOC shall be included.

IV. SUMMARY OF MAJOR DELIVERABLES/SCHEDULE

The schedule for submission to EPA of deliverables described in the SOW is presented in Table 1.

TABLE 1 – Schedule of Project Deliverables		
1. Removal Action Work Plan (including design characterization SAP)	Draft Removal Action Work Plan	Within 30 days of the Effective Date of the Order.
	Final Removal Action Work Plan	Within 20 days after receipt of EPA comments on draft Removal Action Work Plan.
	Design Characterization Sampling	Start within 10 days of approved RAWP, unless otherwise approved by EPA.
2. Project Design	Concept	As per RAWP schedule.
	Final	
3. Implementation of Removal Action	Notification of Removal Action Start	30 days prior to initiation of Removal Action fieldwork to allow EPA to coordinate field oversight activities.
	Removal Action Start	As per the approved design schedule. Work must be implemented in the summer 2004 work window unless otherwise approved by EPA in the design schedule. Work will not begin until the construction related sections and components of the final design has approval from EPA.
4. Removal Action Completion Report	Draft Removal Action Completion Report	Within 60 days after completion of implementation of removal Action (construction phase).
	Final Removal Action Completion Report	Within 30 days after receipt of EPA comments on Draft Removal Action Completion Report.
5. Monitoring and Reporting Plan	Draft Monitoring and Reporting Plan	Within 60 days after EPA approval of the Final Design.
	Final Monitoring and Reporting Plan	Within 60 days after completion of the removal action and receipt of EPA comments.
	Monitoring Data Reports	

TABLE 1 – Schedule of Project Deliverables		
		Schedule to be proposed by Respondent in the Monitoring and Reporting Plan.
Other deliverables	HASP, TDP, all other deliverables	Per approved RAWP schedule
	Validated data	30 days from sampling event, or as otherwise approved by EPA.

Reference to EPA comments reflects EPA's consideration of comments, including comments from the Oregon DEQ, the Tribes, and federal and state Natural Resource Trustees.

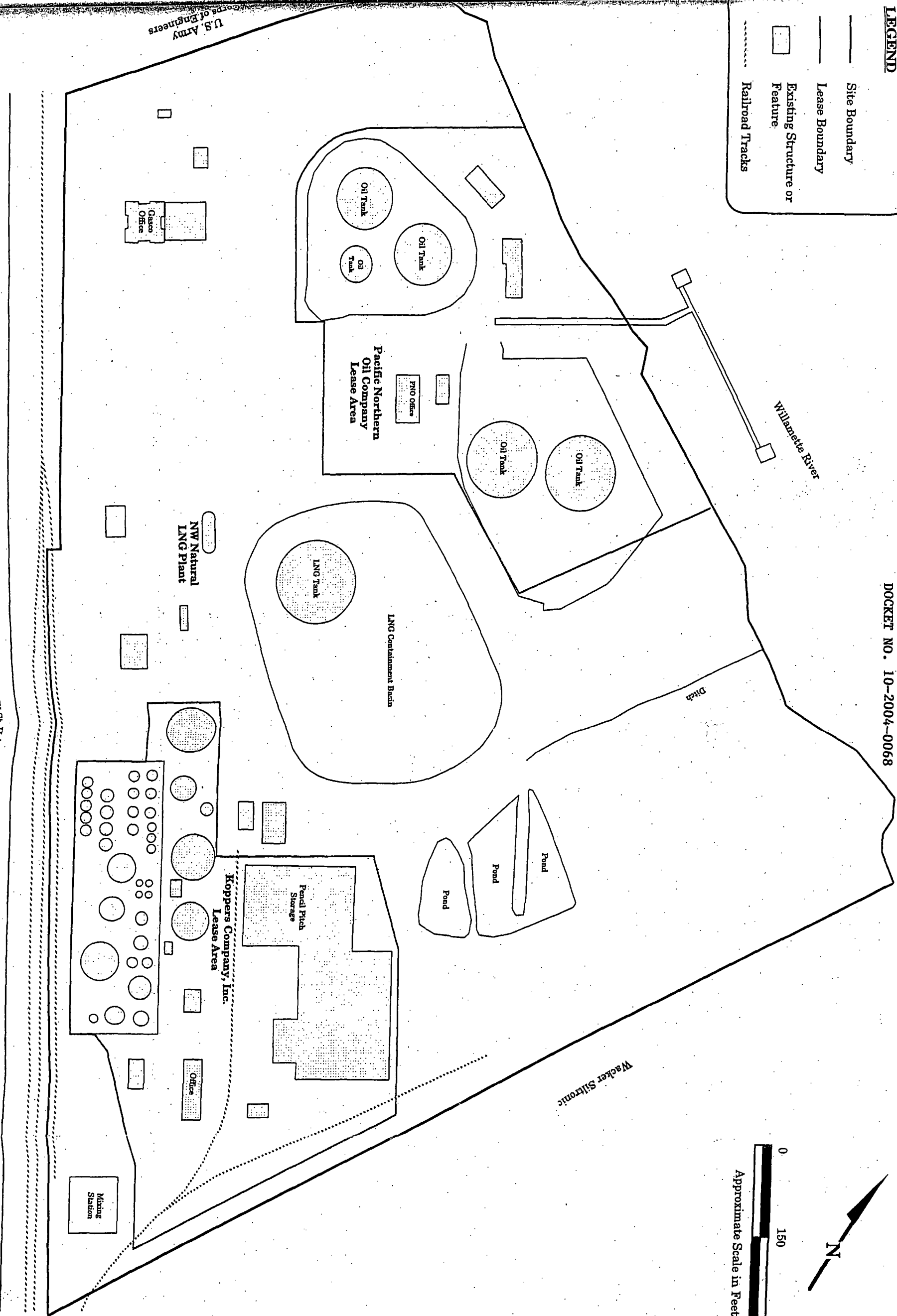
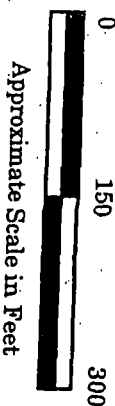
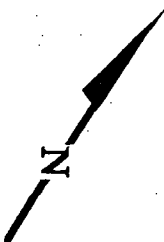
LEGEND

- Site Boundary
- Lease Boundary
- Existing Structure or Feature
- Railroad Tracks

Willamette River

Ditch

Wacker Siltronic



Site Map

Remedial Investigation
Northwest Natural - Gasco Facility
7900 NW St. Helens Road

HAHN & ASSOCIATES
INCORPORATED

ENVIRONMENTAL MANAGEMENT
434 NW SIXTH AVENUE, SUITE 203
PORTLAND, OREGON 97209

September 19

Project No
2708

APPENDIX D TO GASCO ADMINISTRATIVE ORDER ON CONSENT
Docket Number 10-2004-0068

